Master Thesis

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Executive summary

The aim of this thesis is to evaluate the merger between Vestas and Micon, specifically concerning the creation of shareholder value. After an evaluation of the reasons behind the merger and how they can create value, a strategic analysis of the company and its surroundings was performed in order to gain knowledge about the company and the micro and macro environmental factors that impact the firm and the industry in which it operates. Moreover, it was necessary to perform an accounting and financial evaluation of shareholder value created to be able to come up with a comprehensive answer to the problem formulation. The Economic Value Added and Market Value Added tools were used for the evaluation.

The strategic analysis uncovered interesting findings. The intrinsic nature of the industry makes it dependent on government support due to the fact that sustainable energy sources are more expensive than traditional energy sources. The business environment is characterized by increasing competition intensity which has caused Vestas' decreasing market shares.

The strategy launched in 2005 has been successful in reaching two out of three financial goals, and as a consequence the accounting findings confirm that the merger has not yet created shareholder value in terms of the Economic Value Added tool.

When it comes to the financial findings the numbers are showing different results than the accounting analysis. The development in stocks prices has over the five years of analysis created shareholder value from a merger point of view.

So even though the analysis presents diverging results the conclusion for this thesis is that the merger has created value for shareholders. The reason for is that the paper is primarily financial and secondary an accounting and strategic thesis.

Finally some perspectives have been drawn to hypothetical analyze how Vestas would have performed without the merger.

Abbreviations

CAPM – Capital Asset Pricing Model

DCF – Discounted Cash Flow

DKK – Danish kroner

EBIT – Earning Before Interest and Taxes

EBITDA - Earning Before Interest and Taxes Depreciation and Amortization

EVA – Economic Value Added

FCF – Free Cash Flow

MVA – Market Value Added

NOPAT – Net Operating Profit After Taxes

NPV – Net Present Value

PEST – Political, Economic, Social and Technological

ROE – Return on Equity

ROIC – Return on Invested Capital

WACC – Weighted average cost of capital

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Chapter 1

Introduction

The purpose of this thesis is to evaluate how the shareholders have been affected by the 2003 merger between the two Danish corporations Vestas and NEG Micon. A comprehensive analysis on how the merger has changed corporate strategy and financial performance will be undertaken and whether or not this has benefited the shareholders. Some attention will be devoted to how the merger has been financed and whether a premium was paid to the acquired company's shareholders. This is necessary in order to analyze how the merger gains were allocated between acquired shareholders and the acquiring firm. Was the premium too high or did the acquiring firm overvalue the mergers gains, and as a consequence destroy shareholder value by engaging in the merger.

How other stakeholders other than the shareholders have been affected is of course also of importance and interest, but will not be dealt with in this paper. In the long run it is critical for a company to have good relations with its stakeholders, but that is extremely difficult to do a quantitative analysis of, and can be almost impossible to analyze or measure in the short run.

This topic is interesting because researchers have usually concluded that mergers and acquisitions on average do not create value, and it is often difficult to measure the direct merger influence because stock prices and financial account are affected by many other things than the merger. So by choosing a merger with two fairly equal partners the merger effects should account for a larger part of the company performance, than it has with a lot of former merger research on a macro level.

Economic Value Added

In this thesis the EVA will be used to calculate whether the merger between Vestas and Micon has been capable of creating value for the shareholders of the "new" corporation. The WACC must be deducted from the increase in FCF for the economic value can be found. An increase in FCF and profit is a poor measurement for company performance, because it does not take the cost of capital into account.

Problem formulation

The basic aim of this thesis is to analyze the merger between Vestas Wind System and NEG Micon, and whether the merger has created value for shareholders. Because both companies operated in the same industry, the merger is horizontal and economic gains should have been possible to achieve. So I find it obvious to ask:

- How has the merger between Vestas Wind System and NEG Micon in 2004 influenced shareholder value creation in the combined company as opposed to the two separated corporations in terms of economic value added?

In order to answer the research questions it will be necessary to provide an answer to the following questions;

- What were the reasons for merging?

Management of the two corporations had obviously reasons to believe that merging the two companies would benefit the companies and the shareholders.

In order to determine whether the merger created value for shareholders, it is important to look at whether identified merger gains actually materialized in wealth creation and who benefited from them. To determine economic wealth creation, a financial analysis is needed. A pure accounting analysis does not take cost of capital into account, but can be used to determine whether the merger gains occurred. The EVA tool is used to incorporate the cost of capital and thereby establish the shareholder value creation.

- Have there been any gains from the merger, and how have they been allocated?
- How has the post-merger company developed financially, and how has the company performed compared to the market in general?
- Has the post-merger company created value for shareholders from an accounting EVA point of view?
- Has the post-merger company created value for shareholders from a market EVA point of view?

Motivation

The author's reasons for choosing a merger and acquisition case study are to be found in the author's interest to combine finance and strategy, but with finance as the dominating focus. Mergers and acquisitions have in the author's mind always seemed to be a good way of combining these two economic fields. A case study provides the author with a great opportunity to choose from a wide range of different areas within finance and strategy. This enables the author to focus on the specific issues chosen for this thesis. For the purpose of this thesis, a case study instead of a general analysis of all mergers and acquisitions will be employed, as the thesis is aimed at analyzing the micro firm level instead of the macro firm level.

The author has always been very interested in why corporations continue to engage in these activities with so much effort, even though most researchers have found that they on average destroy shareholder value. This is often caused by the fact that managers of the corporation can have their actions based on self interest. For this reason, it is important to keep in mind whether the merger has been initiated for the benefit of the shareholders or the managers.

In the author's opinion, shareholder value has to be the main focus of the corporations and its board of directors, but in the recent years a lot of attention has been given to the company's social obligations. This is of course a very commendable way of running a company, but the author believes that shareholder value creation is fundamental for every corporations. That is why the main focus is on how the post-merger company has been able to create value for its shareholders.

Writing a thesis about mergers and acquisitions provides the author with the opportunity to work on, and analyze topics such as capital structure, cost of capital and overall corporate strategy. These are the areas the author has found most interesting during his master's program. It also admits a lot of flexibility in choosing how the thesis can be structured and in which direction the investigation should proceed.

For this thesis, the Economic value added (EVA) concept has been chosen to evaluate post merger performance. EVA was developed by Stern-Stewart and is a financial tool to measure performance of companies or divisions. The EVA takes cost of capital into account when evaluate company performance, instead of only revenues, EBIT or net profit, so actual shareholder value creation is measured.

Structure

This thesis is divided into five chapters each with a number of subcategories. The first chapter covers seven subcategories, the first one aims at defining the key concepts and terms, which will be employed throughout the thesis. It also deals with the introduction, which encompasses a short preview of the thesis. Furthermore, chapter 1 addresses the motivation which led the author to choose the presented topic and case study. The problem formulation and specifically the core questions intended to be answered throughout the analysis will also be dealt with in the first chapter. Finally, attention will be focused on motivation, structure, limitations and methodology.

Chapter two is the theoretical approach, discussing and describing the theories employed throughout the thesis, and the rationale for choosing them. The cost of capital and the Economic Value Added will be comprehensively analyzed in this section along with the shareholder value point of view and the definition of mergers and acquisitions.

Chapter three describes the chosen corporations Vestas and NEG Micon, and the merger between them.

An analysis of the sustainable energy market is covered in chapter four. Additionally, the chapter presents the calculation of key financial figures pre and post merger. These financial figures will be used for the Economic Value Added analysis for the merger, and whether the merger created shareholder value.

Chapter five aims at providing perspectives regarding what could have happened to Vestas without the merger with NEG Micon for three different scenarios.

The last part is the conclusion of the thesis, and is intended to sum up the analysis undertaken throughout this paper, and its implications.

Limitations

Due to the limited resources and size of this paper, some limitations need to be taken into account. In this section, the background for these limitations will be outlined and explained.

First and foremost, the Porter's five forces model is developed for the strategic business unit level, but in this thesis the model will be used at the organization level instead. The rationale behind this is that Vestas is a global player competing on a single product. Furthermore, the

limited available knowledge of the market is creating some natural limitations, which need to be taken into consideration in the strategic analysis of the firm.

Moreover, the author is analyzing how Vestas' shareholders prior to the merger are affected if they have kept their stock until the end of 2008; how the Micon shareholders have been affected has limited focus even though it will be touched upon. Additionally, the thesis will solely be focused on the impact of the merger on shareholders, and not stakeholders; even though public opinion on sustainable energy is touched upon in the strategic analysis, and that the financial statements show that creditors do not seem to have been harmed by the merger.

It is also important to mention that the analysis is carried out on the group and not on the parent company level.

Since it is not possible to isolate the merger effects, the analysis is based on performance and wealth creation by the post merger company. How the two companies would have performed separately is not known, but some perspectives will be drawn in the very last section.

In this thesis, the financial statement analysis is not a traditional financial statement with calculations of liquidity, profitability and so on and so forth. The analysis is limited to calculating strategic figures and a few financial ratios. It is used to identify merger gains and corresponding performance.

Finally, for the EVA evaluation some typical financial theory assumptions are made which may limit the value of the results.

Methodology

The aim of this section is to provide an overview of the theories used for this thesis. A comprehensive explanation of those and the reasons for choosing them will be carried out in chapter two.

As the purpose of this thesis is to analyze the merger between Vestas and NEG Micon and whether it created value, a proper tool is needed to measure the shareholder value creation; in order to do this, the Economic Value Added concept will be used. Economic Value Added takes the cost of capital into account when measuring a corporation's performance. That means that the cost of capital and the performance of the corporation are necessary to determine the Economic Value Added. Since the ultimate goal of this thesis is to measure the shareholder value creation, it is important to take both aspects into consideration. Shareholder

value creation could also have been measured by the economic profit concept developed by McKinley, but in this thesis the EVA-term is used and in the theoretical chapter an explanation for this choice will be provided.

Because the thesis deals with the analysis of a merger, it is critical to define what a merger is, and to touch upon the theories behind the creation of value in mergers and acquisitions.

When analyzing a merger it is important to perform a strategic analysis of the sustainable energy market and the post merger corporation, for this purpose three analysis models will be used. The PEST analysis for the macroeconomic factors will contribute to the general assessment. Porter's Five Forces analyzes the microeconomic environment, and are intended to provide an overview of the market surrounding the organization. In conjunction with these two models and to conclude, a SWOT analysis will be employed to evaluate the strengths, weaknesses, opportunities and threats of the corporation. For the purpose of the strategic analysis a Value chain analysis and Porters diamond model could have been used as well. In chapter four the reason for choosing these models will be explained.

In order to evaluate how the merger has affected the shareholders, the weighted average cost of capital, the net operating profit after taxes and the market value are needed to calculate both the accounting EVA and the value market EVA. The comprehensive analysis of the EVA results will be used to assess whether or not shareholder value has been created and to what extent.

The challenges when analyzing the impact of a merger on the corporation and the shareholders are that it is unknown what would have happened otherwise. Hence, to create some perspectives three hypothetical scenarios will be analyzed; one with a constant market share for Vestas, one with an increasing market share and finally one with a decreasing market share.

In order to carry out the analysis, financial statements from Vestas, information provided on the company's website, share prices, reports from BTM Consult and data from the Danish National Bank will be employed.

In the end of the paper, a wide-ranging conclusion will be provided on the basis of the analysis carried out in this thesis.

Chapter 2

The purpose of this chapter is to provide an overview of the theories which will be employed in this thesis, and explain why they have been chosen instead of other relation theories.

The theories used in this thesis

Cost of capital

When evaluating a company and its performance, it is necessary to know the company's cost of capital; especially when working with the EVA tool, because the cost of capital has to been deducted from return on invested capital to evaluate performance. For publicly listed entities financed with equity and debt, the weighted average cost of capital (WACC) is usually used to determine overall cost of capital. The cost of capital reflects the operating and financial risk the corporation is exposed to. Debt financing has direct interest costs and are easy to measure, where as the equity has indirect costs and can therefore be very difficult to notice and measure.

Weighted average cost of capital:

$$\mathbf{WACC} = r_D(\mathbf{1} - T_C)\frac{\mathbf{D}}{\mathbf{V}} + r_E\,\frac{\mathbf{E}}{\mathbf{V}}$$

The weighted average cost of capital is the cost of the combined capital invested in the company, specifically the cost of debt and equity taking their percentage of total capital into account. It is not the demanded interest for the equity or the debt, but the interest rate for total invested capital. It is extremely important to use market values of debt, equity and demanded returns or not accounting values, because cost of capital is the current direct and indirect costs for the company to use capital. And the amount of capital that is invested is the capital which the owners and creditors have in the company at market values. It is not in this sense important how much capital was actually transferred to the corporation, because the investors can sell the security at market value and invest it differently, at the opportunity cost of capital.

D is the percentage of debt of overall market value of invested capital. V is the market value of all the company's assets and is usually referred to as the enterprise value. E is the market value of equity and is for publicly listed corporations' the number of shares times the price stocks currently are being traded at. The value of equity and debt combined always adds up to the enterprise value of the firm.

r_D is the required interest rate for the debt the corporation carries. If the company has different kinds of debt, the equation can be extended with a demanded return for all the different sources of debt. Under normal circumstances r_D would be calculated by dividing interest carrying debt with the financial costs. For practical reasons, the difference between short term debt and marketable securities are taken into account when calculating WACC. The rate depends on how risky the investment is for the creditors; mainly being the capital structure of the firm and the market the company operates in, and the tightness of capital in the market.

T_C is the current marginal corporate tax rate. In Denmark the corporate tax rate is flat, and has in the last 10 years declined from 32 percent to 25 percent[1]. For the purpose of this thesis, the rates that were applicable in different years will be applied but also the actual tax rate that Vestas has been paying will be calculated and how this will affect the cost of capital.

r_E is the rate of return the shareholders expects for investing in the company's stocks. This rate consists of two components, the firm-specific risk and the market risk. The firm-specific risk is also referred to as the unsystematic risk while the market risk is known as the systematic risk. Obviously the corporation can only influence the firm specific risk, either by the business they operate in or changes in financial leverage. Investors can eliminate this sort of risk by diversifying their investments and investing in different market securities. Market risk is the risk that the investors cannot avoid by diversifying because it comes from factors that influence the economy as a whole. It is not possible to precisely measure the cost of equity because it is comprised of all the investors' expectation about future changes in stock prices and paid out dividends. So instead it must be estimated from historical knowledge and prices.

The four most widely used approaches for estimating the cost of equity is the CAPM, Gordon Growth Model, Bond Yield Build-up and the APT factor models. For this thesis the CAPM has been chosen for the estimation of return on equity.

CAPM

The capital Asset Pricing Model (CAPM) is the most used approach when then required return on equity has to be estimated.

[1] http://www.skm.dk/publikationer/skat/skatau-december2003/dendanskeselskabsskat-satsreduktionogbaseudvidelse/

$$\mathbf{CAPM} = r_F + beta(r_M - r_F)$$

CAPM is a model developed by Sharpe and relates to the required return on any security with its risk measured by its correlation with the market portfolio. The model is based on Markowitz' portfolio theory and rests on various assumptions[2].

1. All investors can both borrow and lend money at a risk-free rate of return.
2. Investors have homogeneous expectations with respect to expected returns and the correlation matrix of the returns, implying that all investors use the same information.
3. All investors have the same one-period time horizon.
4. There are no transaction costs and investors are indifferent between capital gains, dividends and interest payments. This implicitly implies that there is no tax-timing option
5. All investors are small investors and are price-takes, such that prices are un-affected by their own trades.
6. Capital markets are in equilibrium.

These assumptions are of course not met in real life, but neither of them have a so damaging affect on the estimation that the model cannot be used. And all the assumptions are commonly used within the field of finance and economic per se. The model states that the expected return on every asset can be estimated as the risk free rate plus a risk premium that depends on the correlation between the asset and the market.

r_F is the interest rate of return an investment in a risk free asset offers. This is usually the rate of the one, five or ten year government bond, where no credit risk exists. However, inflation and currency risk are still present so the asset is not risk free per se. So the investor knows the exact future cash flow in absolute values. In the thesis, the ten year government bond rate will be used for the risk free rate.

The beta function is the correlation between the market and the stock, and can be calculated as the covariance between the market return and the security return divided by the variance in the market returns. A beta of one means that security moves in perfect unity with market, a beta of one half means that the security on average increases half a percent when the market increases with one percent. In short, how risky is the stock compared to the market in general. When a security has a beta of two, it means that the security on average increases twice as

[2] Lecture Notes Asset Allocation

much as the market. Once again the problem is that it is the future cost of equity that usually must be calculated and only historical correlation can be measured. If beta is negative the return on equity should be negative as well and adding the security to a portfolio would lower the portfolio variance enough to justify a below risk free return for that stock. This does not make much sense and the return on equity most be estimated in a different manner.

Beta measures the risk that cannot eliminated due to diversification, and most be carried by all investors not solely investing in the risk free asset.

r_M is the market return that according to theory consists of all available investment opportunities. It is comprised of the risk free rate and the risk premium an investor demand for investing in risky securities. So the market risk premium multiplied by the beta of the security is the premium that should be added to the risk free rate for finding a single security's expected return.

Arbitrage pricing theory is a model that used macro economic factors and the company's correlation with each factor to estimate cost of equity. This is a very time consuming model due to all the correlation needed and there is no unity regarding what macro economic factors should be used in the model.

Gordon Growth model is a formula that uses dividends, the stock price and the future growth rate to calculate the cost of equity.

$$\text{QUOTE} = \frac{dividend}{Price} + \text{growth}$$

It is an easy and quick way of estimating cost of equity but unfortunately have some serious downfalls. As shown in the model a constant growth rate is used, and it is highly unlikely that a company will experience the some growth rate for perpetuity. This downfall is largely enhanced when working with growth stocks.

Furthermore the bond build-up model exists to estimate the cost of equity. This is done by observing the rate of return on the corporate bonds of the company and adding a risk premium for equity. This is a very simple and straightforward way of estimating equity, but because the Danish market for corporate bond is very immature, it is not common for Danish companies to issue corporate bonds. Vestas has no corporate bonds listed on the Copenhagen Stock Exchange.

Another and perhaps even more simple way of estimating the demanded return on equity is by calculating the past average returns, but the future returns do not necessarily resemblance the past returns, and they cannot be found for privately held companies. And this way of estimating return on equity does not take changes in the economy into account, but simply assumes that the return is constant through time. The other models consider economy changes with macro economic factors or different bond yields.

When calculating WACC the difficult part to access is the return on equity and the future capital structure. Future tax rates are not of great importance and unless the company or the whole economy undergoes serious changes, the interest rate on debt should stay pretty much the same. Furthermore, the return on debt is fixed and most debt in many corporations is long term so must of the short term future financial costs are known. In this paper we do not have the issue of estimating future capital structure, because the performance of a company is to be evaluated. So the capital structure in the years of the evaluation can be observed with some precision.

Different WACC for each year will be necessary to calculate because the capital structure, return on debt, tax rates and risk free rate has changed during the evaluation period. This means that it will be necessary to work with different WACC's for each year of the investigation.

Economic Value Added

This concept was originally developed in 1982 by Stern-Stewart as a way to evaluate the performance and the creation of shareholder value of companies or a company division. Accounting measures such as EBIT, EBITDA and net profit does not take the cost of capital into account and therefore do not measure the economic profit. The same applies for market values measured by the growth in stocks prices. The price of a stock can be raising but if the increase is not sufficient to cover cost of capital, the shareholders will not make an economic profit. The economic profit is the residual income when accounting for cost of capital. A company can have a positive accounting profit, but still destroy value because the profit is not high enough to cover the cost of capital. For example, if the company has an invested capital of 1000 Euros and makes an accounting profit of 100 Euros, it seems to be performing pretty well. But if the cost of capital is 15 percent, the company most has a profit of at least 150 Euros to avoid destroying shareholder value. If the company is performing well enough

exactly to cover the cost of capital, it is making economic profit because the cost of capital have accounted for an adequate yield.

EVA rest on the two principles that a company is only profitable;

- if it earns a profit exceeding the opportunity cost of capital
- if the firm only makes positive NPV investments decisions

For the profit to excess cost of capital in absolute values, the total invested capital must be multiplied by this cost of capital as a percentage. This calculation gives a numerical value that must be smaller or similar to profit for the corporation to have made an economic profit and creating shareholder value. The other principle of making positive NPV investments means that projects should only be initiated if the present value of future cash inflows is similar or larger than the present value or cash outflows this project requires. And all incremental and affected cash flow must be accounted for, so if the undertaken of the project influenced the corporation in other ways that have to be considered as well.

For economic value added two different definitions exists; an accounting and a financial. The accounting EVA is the residual between NOPAT and cost of capital (in this thesis WACC) multiplied by the book value of invested capital. The financial EVA is also known as the market value added, but will in this thesis be referred to as the financial EVA or MVA.

EVA = NOPAT-WACC x Invested Capital, so the value added is the operating profit after taxes when the cost of capital has been accounted for. The financial definition of economic value added is the market enterprise value minus the total capital invested. Firm market value is the present value of all future expected cash flows.

Market value added = Market value of the firm– Total invested capital in the firm. This is the difference between the market value of all the securities issued by the company and the total capital contributed by security holders. In this paper the changes in MVA every year of the analysis will be calculated in order to measure whether or not the securities of Vestas have increased enough to cover the cost of capital.

Both the enterprise value and total capital invested is comprised of both the firm equity and the firm debt, so both sides of the finance sources must be accounted for. The market value added is the same as the present value of a series of EVA values and is equivalent to the net present value of the firm.

In this thesis both the accounting and the financial EVA will be calculated and analyzed, so it will be possible with diverging results for shareholder value addition in the merger between Vestas and Micon. In this thesis the financial EVA will receive the most attention because it is mainly and primarily a financial paper and only secondarily an accounting paper. When the EVA term is used in this thesis no distinction between financial and accounting EVA will be made. This means that every time the EVA term is mentioned, it will be specified whether the accounting or financial concept is relevant.

Economic Value Added is a tool for measuring the financial performance of the company, and Market Value Added is a tool for measuring the accumulated wealth creation.

Accounting EVA can be improved by either increasing operating profit or by reducing the capital used. If the management if capable of running the company more effective by improving operating profit without employing more capital, the shareholder value creation will be improved and when net operating profit after taxes are increased without a proportionally increase in the cost of capital the EVA measurements will be better. The result is the same if net operating profit can stay the same with a decrease in use of capital. It is important to keep in mind that WACC is comprised of the capital structure and the markets demand for return for investing in the company's securities. So making the WACC decline is not solely in the hands of the company, but depends on the market and the risk in the risk in the industry the company do business in.

When working with economic value added the concept of the EVA spread is used. The EVA spread is the return on invested capital minus cost of capital. RROC = ROC – COC.

In well-functioning capital market the value/capital ratio can be applied for measuring managerial performance. With a ratio above one, the management is doing well and is investing in projects with positive net present values, and accordingly with a ratio beneath one the management is performing bad and is investing in wealth destroying projects.

One of the most important justifications for the EVA concept lies in the difference between profit and economic profit. Profit is the accounting measure of whether the company has increased value in absolute figures, while economic profit is positive when estimated after tax return on invested capital exceeds the cost of capital. If the after tax return does not exceed the cost of capital, the corporation is not making economic profit but is destroying value in economic terms. Positive economic profits are known as economic rents.

Why EVA is better than traditional measurements tools.

From an investor point of view, it is important to have in mind that positive net profit and increasing stock prices do not necessary translate into a well performing company. The EVA concept can help with this by taking the cost of capital into the equation. This however, does not mean that the EVA tool is perfect, from an investor's point of view to control management and measure the overall performance of managers and the company as a whole. And a company listed on a public exchange will always have a financial statement with accounting figures and a market value derived from the current stock prices. The accounting and the market value are almost even identical and the development in the two does not have to be correlated. The accounting statement can be very positive and show increasing profit even though the stock price is declining or vice versa. This has the consequence that investors and analysts most be aware of the downfalls with both these performance measurements.

Accounting measurements have at least two advantages compared to stock price performance;

- Depends on absolute values instead of investors' expectations
- Can also be used to evaluate lower level managers

However, accounting measurements also have disadvantages;

- Managers can to some degree control financial statements. The long run can be harmed in favour of short term accounting performance.
- Financial statements have to comply with legislation, and are not measuring the market but book value of assets and liabilities.

EVA has another downside which it shares with almost any other measurement tools, it is virtually impossible to ascertain whether good company performance is due to the management's hard work or simply good luck. But because the cost of capital takes the opportunity cost into account, EVA for sure indicates how the performance of the company has been compared to other corporations. So if the EVA is positive, the company is making an economic profit regardless of other companies on the micro level and the macro economic factors on the country and international level.

McKinsey & Co have instead of EVA developed the economic profit concept, which is invested capital multiplied with the difference between return on invested capital minus the cost of capital. Economic profit = (Return on invested capital – cost of capital) x capital invested. This concept is in general the same as EVA and is in the same way as EVA a tool to measure management's performance and shareholder value creation.

When the providers of financing have decided on the ways to measure the management, they need some tool to align the interest of the management with their own interest. This can overall be done in two ways, by monitoring the management or by providing them with some incentives to make them work harder. When dealing with providers of capital it is important to have in mind that the owners and creditors certainly do not need to have the same interests. In the simple case the creditors have the most secure cash flows from interest rates but do not share the profit when the company is doing great. Owners on the other hand can be highly benefited when performance is great, so they will be more willing to take some chances. Many other different scenarios can occur but they are not important for this thesis. And the agency problem between management and owners is the focus for this thesis.

The problem with aligning the interest or the management with the interest of the owners is enhanced when the distance between the two is increasing. But this is more thoroughly described in the Shareholder value point of view-chapter.

Shareholder value point of view

The main purpose of this thesis is to measure the shareholder value created, if any, by the merger between Vestas and NEC Micon. That makes it important to have a clear definition of shareholder value and the creation of it. Opposed to value to stakeholders, shareholder value can be precisely measured, which makes it a valuable tool for performance management.

Shareholder value was introduced by Alfred Rappaport in 1986 in the current term, where shareholder value is the equity value of the firm, and can be measured as the residual when the liabilities have been subtracted from the assets. Shareholder value is the market value of the equity of the firm, so accounting figures cannot be used. The creation of shareholder value is in mathematical term (ROIC – WACC) x IC, or the difference between return on invested capital and the cost of capital multiplied by the invested capital. In this model all the decisions made by management should be based on the single criterion, whether the expected gains are

higher than the expected costs with the cost of capital taken into account. In other words, if it is a positive NPV project it should be initiated. Otherwise it should be abandoned.

At the country level within the field of corporate governance, the market model is based on the creation of shareholder value by companies. The market model is also known as the Anglo-American model because in the US and England corporate governance is based on the market. Denmark is in the literature usually considered to be somewhere between the market model and the bank based model.

The market model is the ideal model for shareholder value creation, where the only goal of the corporation is to make money for the shareholders and shareholder value maximization is the reason for the corporation to exist. Furthermore the organization should be centred on that notion, which among other things means that management should have an incentives plan, the ownership should be diversified, no takeover defences and transparency and good investor relations.

The owners most make sure to align the managements to the interests of the shareholders. This can be done with either a monitoring or with an incentives plan. Monitoring is not easily done without a major shareholder and is a trying and time consuming task for the owners. To create an incentives plan is the other possibility regarding aligning of interests. This can be done in various ways, including giving management stock option, warrants or simply plain stocks. Management can of course also be rewarded according to accounting performance and a percentage of profit or another financial statement entry.

If management is not monitored or rewarded accordingly with performance, they will have a tendency to slack off or choose actions that may be value destroying. Like engaging in M&A activities because they would prefer to run a bigger company, or simply are not estimating merger gains with enough care and precision because it will not affect job or pay.

When ownership is diversified, the cost of capital can be reduced due to portfolio theory. An investor can reduce risk by diversifying his investment instead of putting all this money in the same corporation. Diversified ownership also means that the stock should have some market liquidity so the control of the company can be allocated to whoever is most capable of running the company most effectively.

Takeover defences are usually created to protect incumbent management from outsiders with the intention of gaining control of the corporation and change current management.

Shareholders are often paid a premium when the company is taken over, and the decision should lie in the hands of the shareholders and not be blocked be anti takeover defences.

The management of the firm should in the market model also be very focused on transparency and investor relations. The firm should invest in information transferring to the shareholders so they can be well informed about the way the corporation is doing and can make decisions about selling or keeping their shares on a well informed foundation.

In continental Europe corporate governance revolves more around the bank model instead of the market model. In this model the presumable most important relationship for the corporation is with its bank. The bank is the primary source of economic funds, and banks are highly involved in board rooms and the stock markets. In the market model, finance is mainly provided by stockowners or buyer of corporate bonds.

In the bank model, the bank is performing most of the services the market does in the market model. The bank is partly performing agency monitoring which is being executed by the market or big shareholders in the market model. This monitoring of course also benefits the small shareholders. A long relationship with a bank can be beneficial for a corporation in need. When the company has been doing business with the bank for many years, it surely is easier to arrange for some extra finance when needed. The market will almost certainly not be as flexible or willing to help. So both the market and the bank model have advantages and disadvantages, and neither can be said to the superior. The market model is the most liberal one where things are centred on the free market and the shareholder is king. The bank model has been developed due to more regulatory from the government, and the all the stakeholders of the company are of importance. This can be seen in the legislation where employees have to be represented in the board of directors and the corporations should focus on all the external and internal stakeholders.

In Scandinavia, the literature has usually concluded that corporate governance lies somewhere between the Anglo-American and the continental European model. Danish corporate governance is said to lie between the two, perhaps with the most resemblance with the bank model due to our strong social democratic history. In Denmark the law does not justify the corporation as a profit making unit, but for purpose of all the stakeholders.

The justification for corporate governance lies in the fact that within economic theory peoples actions are based on their own self-interest. This creates the basis for the agency problem,

which happens when the principal and the agent have different interest. When working within corporate governance and shareholder value the principal will usually be the owners of the corporation and the agents will be the board of directors or the daily management of the corporation. In this thesis it will be the diverging interests between the owners of Vestas and the management of the company, which mainly will be the board of directors and the CEO. The decision to merge Vestas and NEG Micon, and how the merger has affected shareholder value, will be the specific agency problem in this thesis. From the shareholders point of view, the merger is only justified if it has been value creating. The agents might have other reasons for the merger than purely shareholder value creation. The obvious agency problem in this case is of course that the manager and the board of directors would prefer running a bigger than a smaller one.

When working with shareholder value and shareholder value creation, it is important to be aware of the distinction between the two. Shareholder value is the value of the equity that is the enterprise value minus the debt. Shareholder value creation is the free cash flow of the year minus the cost of capital. The free cash flow is the net profit after taxes adjusted for none-cash entries.

Mathematical definition of shareholder value:

$$PV = \frac{\sum \text{Cash flow}^n}{(1 + \text{cost of capital})^n}$$

Value of the stocks is the all expected future cash flows from the company to its shareholders, the cash flow being paid out dividends, value of the stocks at realization, or a stock buyback. This is one of several ways to value common stocks and as stated above, the joint value of all the company's common stocks is equal to overall shareholder value.

Mergers and acquisitions

Even though merger and acquisition are often used interchangeably there is a distinction between the two terms. A merger occurs when two or more companies become one, that is A+B becomes C, or for that matter keeps the name of one of the merging companies. An acquisition, however, is when one corporation takes control over one or more companies and integrates it/them into the acquiring corporation. The merger between Vestas and NEG Micon was not a clear cut case of either because Vestas integrated NEG Micon into its own organization, but the shareholders were paid with stocks in the new company. In this paper the

distinction between merger and acquisition will not be a focus point and the terms will be used interchangeably.

Mergers are usually divided into three different categories; horizontal, vertical and conglomerate mergers. A horizontal merger is when two companies in the same line of business are combined. The Vestas and NEG Micon case is a horizontal merger. A vertical is when two companies on different stages of the value chain are merged. An upstream merger is when a company expands business by buying its supplier or a downstream merger when the supplier acquires the customer.

A conglomerate merger involves two or more companies in different industries. The big mergers of the 1960s and 1970s were conglomerate mergers. Diversification of risk has usually been the financial justification for these types of mergers. In strategic terms, unused resources have usually been the main idea behind these mergers.

Economies of scale can be accomplished when a bigger organization can be run more cost effectively than a smaller organization. The average total costs of production decreasing as the quantitative output increases. When two companies are merged, it can often be possible to negotiate better prices with supplier, to close down production facilities or lay off some employees without losing sales volume. These are the cost reductions that can be achieved in horizontal mergers where economies of scale are a natural goal and justification for the merger. However, managers have claimed economies of scale can be achieved in all sorts of mergers. In conglomerate mergers, the sharing of offices facilities, accounting and management have been claimed to be cost reducing also.

Vertical mergers can also have the potential of creating economies of scale when for example the administration and coordination works better within one company than between two or more companies. In recent years the development has gone in the opposite direction though, with increasing outsourcing instead of vertical integration. For some corporations, it can be necessary to vertically integrate to secure the supply chain downstream as well as upstream.

For small firms it can be necessary to be acquired by a larger one that can provide the lacking capital or resources. Small firms can lack the required capital to start mass development of a new product or the marketing or distribution of a product. Small companies can also lack the required resources within marketing, distribution or production. Or another company has the

complimentary resources to make production of a unique product possible. Sometimes merger gains can evolve due to better management after the acquisition.

Economies of scope have similarities with economy of scale, but while economies of scale are referring to one single product, economies of scope are the cost saving that can be achieved due to synergies between different products. The average cost of management, accounting or distribution can be reduced because the number of products increases. With a single brand name for one than one product, the dollar spent on marketing and advertising can be shared between products and economies of scope arise.

When capacity and production are too large due to declining demand or simply too much investment, industry consolidation seems to be a good way to improve efficiency. The overcapacity can be reduced by mergers and the excess capital can be brought to better use elsewhere in the economy. The banking industry in Denmark in the late 1980´s and early 1990´s is a good example of this.

Throughout time, creative financial managers have justified mergers and acquisitions with various doubtful arguments. The classical one is when management has justified the merger with the diversification argument. Diversification is granted a very important part of finance and especially portfolio theory; however companies should not engage in mergers and acquisitions activities for the opportunity to diversify. Diversification is a crucial object for an investor, but it should not be a goal for a company. The reason for this is that it is cheaper and easier for the investor to diversify than for the company. An investor can buy shares in other industries for the market value with minimum transaction costs, while a company buying an entire entity is usually more expensive due to the premiums often paid, and is definitely more time consuming. Often cash surplus can be the reason managers begin to think about diversification and want to get involved in more growing industries, but a company should instead focus on the company's competencies and resources and pay out cash surplus to the shareholders. When dealing in well functioning capital market, diversification do not increase firm value, investors have numerous investment opportunities so the argument that investors are willing to pay more for a diversified company does not applied. In countries where the capital markets are not as well developed as in Denmark the diversification argument might be reasonable.

Other creative reasons have been lower financing costs and higher earnings per share. However, all these arguments presume that the managers can cheat the capital market to think they are getting more than they actually are.

Agency theory

Unfortunately for shareholders managers are sometimes driven by other reasons than shareholder value creation when dealing with M&A. The agency problem occurs when the owner is not running the company, and the problem is enhanced when the company does not have a strong majority shareholder and in corporate governance the distinction is made between strong and weak managers. When the managers can act without the control of the owners and do not have strong incentives to create shareholder value, they will tend to invest in project in their own interest, such as corporate jets and cars, at the expense of the shareholders. This behaviour is known as perks[3], when the managers do not have the incentives to focus solely on shareholder value but instead grant themselves some benefits

When managers are not rewarded for a high performance, they will have a tendency to reduce their efforts to run the company the best way they can. One way of reducing this risk is by granting the managers some incentive package, like shares, options, and performance based pay. These incentives have other pitfalls, like risky investments and managers trying to boost share price and financial statements.

Empire building is an agency problem that occur when manager prefer to run big companies instead of smaller ones. This kind of agency problem is especially relevant when dealing with mergers and acquisitions. Along with the line of empire building, we have entrenchment investments, which is the name for the agency problem when managers are choosing the investments that require the particular skills the managers have. Empire building and entrenchment investment are typical overinvestment problem and both can be the case in mergers and acquisitions.

Avoiding risk can also be on the agenda for the manager if he or she is worried about losing their job. Especially if the manager is paid a fixed salary and therefore do not share any potential gains from risky projects, the manager will have incentives to avoiding risky projects with high potential advantages.

[3] Short for perquisites

How to estimate merger gains

A merger or an acquisition makes economic sense if the joint corporation is worth more than the two or more companies separately. In economic theory the two main categories of reasons for engaging in merger and acquisition activities, the ones creating benefits for shareholders and the ones creating benefits for managers. Shareholders want the company and its managers to act in the shareholders interest and only invest in positive NPV projects. If the company invests in negative NPV projects or does not invest in positive NPV projects it is not acting in the interest of the shareholders.

When the companies are more valuable together, the merger is in an economic sense a good project. But for the shareholders, it is important how the value added is allocated. Naturally, both the shareholders for the acquiring and the acquired company want to receive as much of the value as possible and also more of course.

Even though there is an economic justification for the merger, the managers should not necessarily engage in merger activities. The costs of the acquisition are the residual between the price of the acquisition and the market value of the acquired company. If these costs are higher than the merger gains, the acquisition is a negative NPV project for the acquiring firm. If they are not it is a good project, even though managers should still focus on the allocation of the merger gains.

When the merger is financed solely with cash, the merger costs are fairly easy to calculate, however, it gets a bit more complicated when the merger is financed partly or in full with shares in the acquiring company. In this case, the sellers of course share the gains and costs that result from the merger. The merger costs are then the difference between the fraction of the new company giving to the sellers as payment and the value of the acquired firm. So when the acquisition is financed with stocks in the acquiring firm management wants the acquired stockholders to share gains and risks due to the merger, and management must be considerate to doubt merger gains more than in a pure cash acquisition.

It is of course hardly ever possible to be sure the companies are worth more together. But the merger decision should not be taken before the company or its advisors have made a comprehensive and objective valuation of the target company and the possible gains that can be achieved due to a merger.

Chapter 3

The purpose of this chapter is to provide an overview of the chosen corporations and the merger between them. Vestas and Micon will be described prior to the merger, and change in Vestas due to the merger will mention. Finally, the merger between the two companies and the reasons behind the merger will be described.

Vestas Wind Systems[4]

The company was established in 1888 by 22-year old H.S. Hansen as a blacksmith in the small Danish town Lem. Forty years later, the company begins to produce window steel frames for the local dairy industry, and with a booming building industry in Denmark in the 1930s, the company experience rapid growth until steel was restricted during the Second World War and the Hansen's had to fight to keep the family business going.

After the war H.S. Hansen's son Peder establishes VEstjysk STaalteknik A/S with some colleagues and starts to make household appliances and shortened the name to Vestas. In the 1950s the company becomes international after Peder Hansen has bought the patent for a milk urn cooler and the company begins to export to mainly Germany, Finland and Belgium.

In 1956 Vestas begins a partnership with former Danish shipyard giant Burmeister & Wain to develop a new cooler type for turbo chargers. The leap from the milk urn cooler is not big, but the turbo charger cooler soon becomes a success for Vestas. Peder Hansen buys out his partners in 1958 to becomes the sole owner of Vestas, but unfortunately the company's offices and warehouse burn to the ground two years later. However, this does not slow Vestas down and with a new build factory the company expands to 100 employees.

1968 is the year when Vestas starts to build hydraulic cranes for light trucks which turn out to be the biggest export product ever for Vestas. More than 96 percent of production is sold outside Denmark to more than 65 countries.

Because of the oil crisis in the 1970s, the management of Vestas chooses to explore the possibilities for alternative energy development. To avoid ridicule from suppliers and customers, the company carries out this development in secret. While the company's own research and experiments are not successful, the two Danish blacksmiths Karl Erik Jørgensen and Henrik Stiesdal are developing a wind turbine but do not have to funds to start production

[4] Information about Vestas is taking from Vestas ´own homepage

and turns to Vestas for help and a promising partnership begins. The model developed are essential the same three blade model used today.

The timing for starting to produce windmills showed to be very good because new legislation in Denmark and USA made it profitable to invest in windmills. In the next few years, the technology is improved so that the mills are getting bigger and more effective so the company is experiencing high growth these years. And in 1983, Vestas establishes an American subsidiary, Vestas North America Ltd.

The year 1986 is to be a more important year for Vestas. From the beginning of the year, the American government support for wind mills are abolished and Danish tax laws on turbines are changed with a halving of the rebate. This turns into a decline in sales and higher taxes which takes Vestas into suspension of payments. The result of all this is that Vestas is turned into a solely wind energy and turbines focuses company with a new management and only 60 employees. All other activities other than the wind energy are spun off. But in the years to come Vestas opens operations in India in 1987 and in the crucial market Germany in 1989. These operations are primarily sales offices. 1989 is also the year when the Danish competitor Danish Wind Technology is merger into the company.

In 1991 Vestas sells its 1000th turbine, and the wind farms are growing in size and more countries are getting interested in wind energy. The company's turbines are supplying wind energy all over the world from Great Britain in Europe to New Zealand on the other side of the world. Meanwhile Vestas´ goal of becoming the words biggest modern energy company is beginning to be realized.

The company goes public on the Copenhagen Stock Exchange in 1998 to increase access to capital for the acquisition of companies and organic growth. The stock was initially sold for about 30 DKK a share and with a market capitalization of approximately 6 billion DKK. Today[5] the stock is traded at 366 DKK which adds up to a market capitalization of 60 billion DKK.

More than 80 percent of eligible employees accept the offer for acquiring shares in Vestas in 2000, the same year Vestas receives the largest order for wind turbines ever. 1800 are sold to the Spanish giant Gamesa Eólica S.A. Vestas has approximately 25 percent of the world

[5] November 19 2009

market for wind power. In the first years of the new millennium, the company won a lot of very large order for wind power and consolidates it position in the wind energy business.

After the merger

In 2004 Vestas merged with the other Danish Wind Power giant NEG Micon and the new company becomes the world leader in the wind power energy with a market share of 32 percent. Managing Director Svend Sigaard resigns same year in October so the new strategy for the merged company must be implemented by the new CEO Ditlev Engel. A public offering of stock was initiated to finance the implementation of Micon into Vestas.

The new strategy, "The Will to Win", is announced by new appointed CEO Ditlev Engel in 2005 and lays out the company's determination to make wind a competitive energy source along with gas and oil. But the merger is off to a tough start with a decline in the dollar rate and high steel prices are adversely affecting margins. However, Vestas is largest order to date from American Horizon Wind Energy, so there is also positive news.

The next few years Vestas are having financial problems mainly due to repair costs and investments in increasing production facilities, Factories are opened in China and increasing demand forces Vestas to double the capacity of the factory. In 2008 Vestas has its best financial result ever with an operating profit of 668 million Euros even though the company's market share has fallen to 20 percent.

Strategy

"The Will to Win" strategy was announced in 2005 one year after the merger with NEG Micon, and strives at reaching three goals in 2008.

- EBIT margin at 10-12 percent
- A net working capital at maximum 20 percent of revenues
- Market share at no less than 35 percent

Based on its number one in Modern Strategy, the company wants to build the world's strongest energy brand. This must be done by consolidate its position as market leader in a highly growing and increasing more competitive industry. To achieve this, Vestas wants to maintain high growth and build a more effective and profitable organization over the coming years. Vestas aims at building the best turbines and producing the greenest energy. The

company wants to have the best customer and supplier relations in the industry and should be the most valuable wind turbine producer.

These goals are very difficult to measure, but should work as a guideline for the company and its employees. A comprehensive analysis of the strategy and whether the goals have been reached will have to wait for a later chapter.

NEG Micon

When Nordtank Energy Group and Micon A/S merged in May 1997, the company NEG Micon was a reality as it looked before acquired by Vestas Wind System in 2004. Nordtank Energy Group was established in 1962 and Micon A/S was established in 1983.

NEG Micon A/S has opposed to Vestas generated its growth by very actively buying up corporations in Denmark and abroad. Since the merger between Nordtank Energy Group and Micon, the company has acquired corporations such as NedWind BV, British Wind Energy Group and Wind World of 1997 A/S. besides different growth strategies Vestas and NEG Micon have experienced a lot of the same development which us natural because they operate in the same market. NEG Micon went public in 1999 the year after Vestas did.

NEG Micon	2003	2002	2001	2000	1999
Revenues	707.000.000	842.000.000	716.000.000	539.400.000	627.300.000
EBIT	42.900.000	37.800.000	42.500.000	21.100.000	-75.900.000
Balance	826.200.000	843.200.000	572.000.000	403.500.000	345.900.000
Sales in MW	855	1.030	875	600	761
Market share	10 percent	15 percent	13 percent	13 percent	19 percent

Revenues, EBIT and balance are in Euros

It is obvious that NEG Micon was a materially smaller corporation than Vestas, and a company with declining market share. Even though EBIT seems to be improving, NEG Micon looked like a company with a need for a change of strategy. In the financial statement for 2003 the year is classified as unsatisfying, and the decreasing revenues are explaining as technical delays with orders and projects. A declining activity in Germany also has an adverse effect on NEG Micon due to Germany being the biggest market for the firm.

In 1999 Micon experienced a lot of problems with transmission in the produced windmills. That created huge costs in conjunction with the repair of the troubled windmills, and the repair program Retrofit was launched with duration of three years. The company posted 240 million kroner for this repair of the approximately 1250 transmissions in windmills in 16 countries.

This also resulted in mistrust to the management, which meant a substation of the director. The stock price declined by one half, but had corrected one year later. The financial statements also show us that revenues decreased by almost 14 percent, which is remarkable because the revenues had increased with about 50 percent the two prior years. And from 1999 to 2000, the market in general increased by 13 percent. In the same period Vestas experienced a steady growth.

Germany was a mentioned prior the Micron's main market and in 2002 84 percent of capacity was coming from export. Spain was together with Germany the main market for Micon and both countries were generating more capacity than the domestic market.

In 2003 the revenue of NEG Micon of 700 million Euros was about 40 percent of Vestas, and their sales at 855 MW was significantly lower than Vestas´2500 MW. The company had about 2600 employees in 2003 and the company was operating in most of Western Europe, USA, Canada and Argentine in American, and in Japan, India and China in Asia. The company has also a presence in Australia.

In the last years before the merger with Vestas, NEG Micon was not capable of keeping up with the market and lost market shares in a rapidly growing market. 1999 was a very poor year for the company, and NEG Micon was still suffering financially and strategically when the firm was acquired by Vestas in 2004.

The acquisition of NEG Micon by Vestas Wind System

This section will describe the merger and how it was carried out, and how the managements of Vestas and Micon felt about the merger between their companies.

The following information has been taken from the "TILBUDSDOKUMENT - Sammenlægning af Vestas Wind Systems A/S og NEG Micon A/S".

December 12 2003 the boards of directors of Vestas and NEG Micon announced the planned acquisition of NEG Micon by Vestas. The offer was a one-to-one share deal, with every share

in NEG Micon exchanged to one share in the merged Vestas Wind System. This was a 36 percent premium for the shareholders of NEG Micon because the market value of one Vestas´ share was 36 percent above the price for one NEG Micon share. The Vestas stock was traded at 92 and the NEG Micon at 67.5 at closing December 11 2003 the last day of trading before the offer. The offer document lists the average prices of the two stocks and premiums on four different time frames; the one month, six month, nine and 12 month average before the acquisition offer. The one month average prices give the Micon shareholders a premium of 62 percent, while the 12 month average prices only give a 6 percent premium. So looking at the offer in a one year context, it gives the shareholders of NEG Micon a stock valued at 82 in return for one valued at 77. This has of course some importance but should not be the reason for accepting the offer. In a more recent one month time frame the average stock price for Micon was 66 and 107 for Vestas, which gives the Micon shareholders a solid 62 percent premium. The reason for this change in premiums is due to an almost 40 percent increase in the Vestas stock, which of course should be good news for owners and potential owners of the Vestas stock.

NEG Micon's board of directors considered the merger for being in the interest of the Micon shareholders and was recommending an acceptance of the offer that valued the equity of Micon at 2.457 million kroner based on the closing price of Vestas stocks on December 11 2003.

Vestas had prior to the announcement received a binding pledge for 25 percent of the stock of Micon from Aktieselskabet Schouw & Co. Vestas' offer was due to expire the 21 of January 2004 at 8 pm. The pledge was binding in a four month period after the expiration of the offer.

NEG Micon's board of directors recommended the offer on the basis that the shareholders would be receiving a 36 percent premium on the current market value and a 39 percent premium on a six month average stock prices. They considered the merger to be valuable in economic and strategic terms due to bigger volume, which would make the merger company capable of providing service to the growing market. Furthermore, increasing market shares and synergies of half a billion DKK was expected to be reached after the merger. And because the merger was not paid in cash the shareholders of NEG Micon would take advantages of the merger gains. This, as mentioned before, should however make the shareholders careful about why this acquisition form was chosen. If cash had been chosen all the merger gains were to be allocated to the acquiring shareholders.

The Micon and Vestas boards decided to recommend the merger because the increasing demands for sustainable energy and the rapid growth in the market. In the 90´s Denmark, Germany, Spain and USA were the dominating markets, but in the new millennium new and emerging markets have been developing in Oceania, India, China and Western Europe.

The two companies had the potential to complement each other well from a market perspective, with Micon having a strong position in Spain and in India, and Vestas having a strong position in Germany and USA. Both companies were betting on new and emerging markets in Oceania various Western European countries and Canada, so from a market position perspective the merger definitely has the potential of being a success.

According to the merger offer, the increasing size of new windmill projects and the change from individual to bigger industrial buyers has been an important factor in the industry the recent years. The two boards of directors expected the merged company to be capable of exploiting the new market situation and the increasing growth better than the two separate corporations, and thereby creating synergies from the merger.

Some technical advantages and a larger product portfolio were also expected from the merger, even though the boards expected the number of windmill models to be reduced in the long run. The corporate strategy after the merger will be analyzed on the basis of the strategic and financial goals that were announcement by management after the merger.

Strategic goals

- To grow in a profitable way, and have the necessary size to win orders for large projects.
- High degree of vertical integration to create flexibility and reduce dependency of suppliers
- To continue expanding into new profitable markets
- Continue to develop and manufacture cost effective and state-of-the-art windmill solution
- Create value for stakeholders

Financial goals

- Global market share of at least 35 percent
- A EBIT margin at 10 percent

- Net working capital at 25 percent of revenues

Material cost synergies are also expected to be accomplished after the merger together with increasing growth in revenues. Cost reductions are expecting to be 14 million EUR in 2004, 47 million EUR in 2005 and in 2006 the synergies are expected to reach full potential at 67 million EUR.

Boards of directors have also identified some risk factors for the after merger firm.

- The ability to integrate the activities of Vestas and Micon
- Clients expectations of the merger
- Increasing competition due to M&E activities and the entering of large industrial players in the industry

It is fairly simply to evaluate whether financial goals have been reached after the merger, and that is primarily what this thesis will focus on. However, they will be more than difficult to reach without also accomplishing strategic goals so the merger will be estimating as a success if the financial goals have been reached and shareholder value has been created.

The final strategic goal is to create value for stakeholders, which is virtually impossible to measure, but this paper are measure the shareholder value creation, so at least the value creation for one stakeholder will be estimated.

The acquisition created the undisputed market leader in the wind power industry and would have installed more than 13.000 MW, have a presence in about 40 countries and approximately 8.500 employees. Together with a market share of almost 35 percent and revenues of 2.5 billion Euros in 2004 making the merged company significantly bigger than the rest of the players in the industry.

During the spring of 2004 most of the NEG Micon shareholders accepted the offer, which originally expired the first of January 2004. The deadline was postponed till 21 February because only about 70 percent of the shareholders had accepted the offer. The deadline was postponed once more to March 4 2004 and by that time more than 95 percent of the shares and voting right had accepted the offer. That meant that Vestas could force the last shareholders to sell their shares due to Danish corporate law, and delist the company from the Copenhagen Stock Exchange.

For the last ten months of 2004 Micon is integrated into the financial statement for Vestas for 2004. So in the analyze 2004 is considerate the first financial year of the merger.

Vestas initiated a share capital enlargement at 283 million Euros 26.179.414 which was used as a payment for the share exchange with the Micon shareholders. A later increase in share capital at 270 million Euros was used to pay off some debt and create flexibility and a stronger financial position for the new company.

Chapter 4

The purpose of this chapter is to give an overview of the market in which Vestas operates in and the financial statement analysis. Furthermore an analysis of the financial statement on the basis of the financial and strategic goals will be performed, and finally the shareholder value creation will be measure in the EVA calculation section. .

Analysis of the market

In order to answer the sub questions in the problem formulation, a strategic analysis needs to be performed so the internal and external environmental factors that affect Vestas and its stock price can be identified. An analysis of the market and Vestas is also crucial when evaluating the merger and the reasons that might have led to it.

A PEST model will be used, in order to give an overview of the various macro environmental factors that need to be taken into consideration. After an assessment of the macro environment surrounding the firm has been carried out, it is crucial to consider the micro environment. For this reason, Porter's Five Forces will be implemented to analyze the basic elements that influence the intensity of competition in a given industry. To move one level further down to the company a SWOT analysis will be performed, with the aim to identify the Strengths, Weaknesses, Opportunities and Threats of the organization. Strengths and weaknesses being the internal factors and opportunities and threats are the external factors.

PEST model

The external environment in which Vestas operates is very complex, dynamic and continuously changing. There are a multitude of factors in the macro environment that will affect the company. This is why it is important to undertake a PEST analysis. The model presents reality in a simplified manner, which constitutes strength and a weakness for the model. A simplified reality makes it easier to understand and analyze but it does not capture all the complexity. Although it is a static model that assumes a lot of stability in the industry and allocates the same value to all the factors, the model still provides some insights in understanding the sustainable energy industry. The author is therefore aware of the shortcomings the model presents and will take them into consideration when analyzing the macro environmental factors surrounding Vestas.

The model assumes that the macro environmental factors play a critical role for the industry and therefore also the company. The model analyzes the political, economical, social,

technological factors that will affect the decisions of the managers of the corporations in the industry.

Political factors

The market for sustainable energy has traditionally been characterized, and to some degree still is, with the need for government support. Windmills have not yet reached an efficiency state where they can compete on market terms with traditional energy sources. The reason behind government support mainly lies in the intrinsic characteristics of this type of energy. Issues such as energy dependency, climate change due to polluting fossil fuels, increase in oil prices have been driving legislations and subsidies in favour of renewable and sustainable energy, making wind energy considerably cheaper than it has been in the past, and allowing companies like Vestas to be able to compete with traditional energy providers. The Danish government and the European Union have traditionally been supporting wind energy which is the reason why Vestas has been able to compete with traditional energy providers such as gas, oil and coal.

In the recent years the focus on environmental issues such as climate change has been increasing, which makes it reasonable to assume that the political interest in subsidizing the industry will not decline in the short run. The European Union issues in 2007 a binding agreement that by 2020, 20 percent of the energy in the Union should be generated from sustainable energy[6].

On a more national level, the Danish government has committed to pursue a new energy strategy. In the long run, the plan is for Denmark to be independent from fossil-based energy, and in the short run the objective is to increase the consumption amount of sustainable energy from 15 to 30 percent by 2025. To achieve this goal the government suggests new support possibilities and mechanism implemented.

On a more international level it makes sense to take into consideration the political factors in play the US and China. Currently USA are the largest energy consuming nation and "China is expected to be the world's largest electricity consuming nation by 2030"[7].

According to a report issued by the American Department of Energy "the United States could realistically generate 20% of its electricity from wind by 2030—and some analysts believe

[6] http://www.vestas.com/da/moderne-energi/politiske-initiativer/markedsinformation/eu.aspx
[7] http://www.vestas.com/en/modern-energy/political-initiatives/market-information/china.aspx

that a higher penetration is possible"[8]. China's National Development and Reform Commission has recently established new targets for sustainable energy consumption up from 10 percent in 2010 to 15 percent in 2020.

Sustainable energy accounts today for less than 2 percent of total energy consumption, but Vestas expect that percentage to increase to 10 in 2020[9].

Economic factors

The market for energy is global and therefore factors such as exchange rates, oil prices and economic prospects affect the market. Exchange rates are particular important because Denmark in 2008 only accounted for 0.4 percent of the delivered capacity. When the oil prices increase it seems reasonable to assume that the demand for other energy sources increases as well. Furthermore if the economic conditions are positive more emphasis can be focused on clear energy such as wind mills. However, it is important to have in mind that Vestas does not sell energy directly to the consumer, but deals with energy suppliers which are expected to plan for the long run. So the current economic terms should explicitly be a concern for Vestas, but the overall change in the global economic. However, these factors are still of great importance for Vestas because they have a direct influence on its customers.

Because the sustainable energy business is still dependent on government support, the subsidies are crucial for the industry and without them the business would enter a highly challenging future. Analysts and windmill producers are expecting the costs of wind energy to decrease due to advances in technology and know-how.

The big oil producers in the Middle East and the US cannot be pleased with the increasing focus and market share sustainable energy is gaining. These producers are economically strong and politically powerful, so a change in their strategy resulting in lower oil prices might adversely impact Vestas and the rest of the industry.

The investment horizon for a wind mill project is very long so a lot of macroeconomic factors are influencing decision making. These factors include exchange rates, interest rates and inflation.

[8] http://www.vestas.com/en/modern-energy/political-initiatives/market-information/usa.aspx
[9] http://www.vestas.com/en/about-vestas/history.aspx

Social factors

The growing consciousness about how fossil fuels are damaging the globe and its population has meant that an increased focus has been placed on sustainable and renewable energy. This is very closely linked to the political factors mentioned above. While there is an increased demand for clean energy, the windmill suppliers are also experiencing a critical response from the neighbours to these windmills.

In Denmark an association has been created against windmills. The members claim a decrease in quality of life and declining real estate values[10]. To sum up, the social factors identified have a positive and negative impact on the industry in which Vestas is operating.

Technological factors

The technology is the windmill industry is constantly growing, and the windmills produced today are much more effective and cost efficient than the ones produces 20 years ago. In the same manner, the technological progress is not going to stop, meaning that the windmills that will be produced in ten years will be superior in output and cost compared to the today. "Since we put up the first turbine in 1976, we have improved output 100 times over".[11]

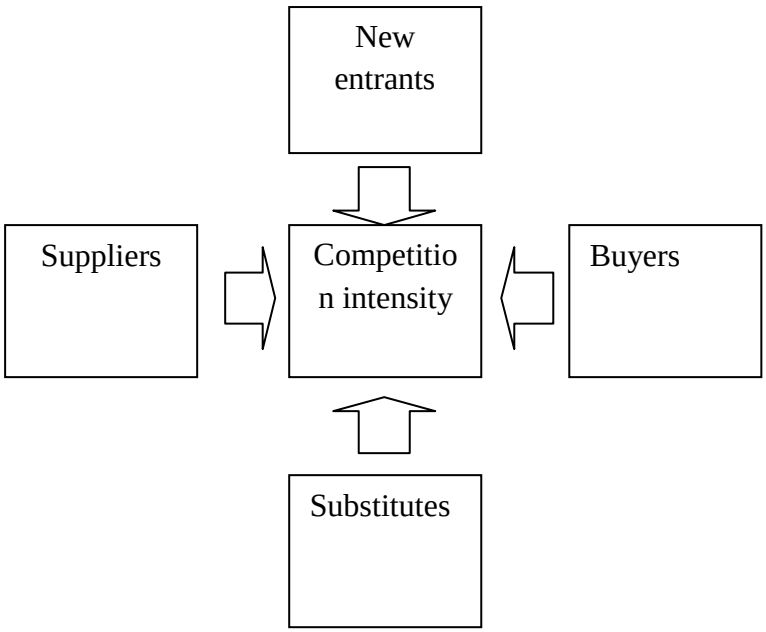
Vestas claims on its website that "wind power has now reached a level of technological maturity where it can compete on price with conventional sources of energy " [12]. Moreover, technological advances have made it possible to create offshore windmills parks.

Porter's Five Forces

The rationale behind using this model in this thesis is to give an overview of the elements that influence the competition intensity in the industry in which Vestas operates. The model lists the following five factors that influence the competition intensity; Threat of new entrants, buyers, Substitutes, Suppliers and Competition intensity. It is important to mention that the five forces are not independent of each other and changes in one factor can impact another one.

[10] http://www.naboertilvindmoller.dk/
[11] http://www.vestas.com/en/modern-energy/understanding-modern-energy/competitive.aspx
[12] http://www.vestas.com/en/modern-energy/understanding-modern-energy/competitive.aspx

Figure



Michael Porter described these main factors as well as some of the dynamics involved in their interplay in his 1985 article "Creating and Sustaining Superior Performance". The model was originally developed to be used at the level of strategic business units not at the level of the whole organization. However, Vestas is a global player, competing on a single product so in this context the model can be used to describe the microeconomic environmental factors surrounding Vestas. Even though Vestas is in the wind mill industry and delivers components to the producers of sustainable energy, the company is still competing with traditional energy sources such as oil, coal and gas. Vestas is a business to business company, which means that they are only indirectly affected by a change in consumer demands.

Threat of new entrants

The threat of new entrants depends on the extent to which there are barriers to entry the industry. In the industry in which Vestas operate it is possible to identify the following entry barriers: economies of scale, high entry capital demands and know-how.

Economies of scale exist in this industry because the technology requirements are substantial and therefore the first windmill is very expensive to develop but after that the costs are declining making the average costs lower and creating economies of scale.

The capital required to enter the sustainable energy industry is fairly high because a single windmill is very expensive to produce and the customers are expecting a full package solution with the production, implementation and after sale support from the producers.

Know-how represents another barrier of entry in this industry, as the technology in the recent years has made a lot of advance and that the present wind mills are substantially more efficient and cost effective than the earlier ones. Because Vestas was an early player in the business the company has gained experience and know-how sooner than other producers and is now benefiting from a first mover advantage.

Buyers

The buying power is high in the industry because most of the buyers of windmills are big energy producers and usually the sales volume per order is high. So initially the buying power is high but afterwards it is difficult to change supplier because switching costs are substantial, due to the fact that the producers are also delivering after sale maintenance and service. Specifically, if the investment is high and the contract terms are complex. The difficulties in changing suppliers have created long-lasting relationships between producers and customers. This results in mutual loyalty and is beneficial for both parties.

Furthermore, globalization has made it easier for customers to scan the market and compare prices and services the various producers are offering around the world.

Orders for wind mills have gone from single orders to larger project orders, which has benefited the industry growth but also increased costumers' negotiation power.

Substitutes

Competition intensity will also be determined by how easy it is to substitute products. In micro economics terms, a substitute can be defined when the cross-price elasticity of demand positive. This means that when the price of one commodity increase, the demand for another commodity increases as well, and therefore the two commodities are substitutes. The cross price elasticity states by how many percent the demand for item X increases if the price of item Y increases by one percent.

Substitution decreases the demand for a particular type of products, as it is relatively easy for consumers to switch to alternatives. Even though wind energy is not cost effective compared to fossil fuels it has now reached a level where it can compete with traditional sources of energy "and land based wind power is only marginally more expensive than electricity from a

new coal-fired power station".[13] Output has been increased 100 times since Vestas launched the first windmill in 1976 and the technological improvement is not likely to stop.

In the case of Vestas, the threat of substitutes may arise from fossil fuels such oil, coal and gas. If the price of these products declines the demand for wind energy will also decline adversely affecting Vestas' customers and therefore the demand for Vestas´ products and services will also decrease.

Even though wind energy is still more expensive than traditional energy sources, it is cheaper than other sustainable energy types as water and solar energy. However, technological progress and/or change in government support can potentially make these energy sources cheaper than wind power in the future.

Although sustainable energy is clean and does not harm the environment like fossil fuels, they still have some disadvantages. As mentioned above, wind mills are well seen by the people living in their proximity. In this sense solar and water energy could gain some advantages.

Suppliers

Vestas is characterized by a high degree of vertical integration and strives towards having more than one supplier for each component, which makes them more independent of the suppliers. Furthermore, the reduction of supplier dependency leads to flexibility, and maintenance of technical know-how in the organization.

As a consequence the supplier power is low, and the suppliers are mainly producing items that are only eligible in the wind mill production stage. This has a negative effect on the suppliers' negotiation power. The players in the business are usually placing large orders with the suppliers hardly leaving any capacity for other clients, which makes the suppliers dependent on the business and not the other way around. For this reason suppliers are expected to have large production capacity and satisfying capital foundation.

Competition intensity

The intrinsic characteristics and the interaction of the four competitive forces mentioned above will have an effect on the intensity of competition in the industry in which Vestas is competing. The intensity of competition can be defined as the perceived similarity of products and services and the amount of competitors in the market.

[13] http://www.vestas.com/en/modern-energy/understanding-modern-energy/competitive.aspx

Table 1

Producer	2002	2003	2004	2005	2006	2007
Vestas	23,20%	21,70%	34,30%	27,90%	28,20%	22,80%
Gamesa	12,40%	11,50%	17,90%	12,90%	15,60%	15,40%
Enercon	19,30%	14,60%	15,90%	13,20%	15,40%	14%
GE Wind	9,20%	18%	11,30%	17,70%	15,50%	16,60%
Siemens	0%	0%	6,20%	5,50%	7,30%	7,10%
Suzlon	0%	2,10%	4%	6,10%	7,70%	10,50%
Repower	3,20%	3,50%	3,40%	3,10%	3,20%	3%
Nordex	7,30%	2,90%	2,30%	2,60%	3,40%	3,40%
Bonus	7,40%	6,60%	0%	0%	0%	0%
NEG Micon	15%	10,20%	0%	0%	0%	0%
Others	3%	8,90%	4,70%	11%	3,70%	7,20%
Total	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

Source: BTM Consult ApS, Ten Year Review

As the figure shows, the competition in the wind mill market can be characterized as differentiated oligopolistic because the producers offer similar products but try to differentiate especially with their after sales services and long lasting relationships with clients. The four-firm concentration rate can be used as a quantitative description of an oligopoly. In this market, this ratio is almost 70 percent which is fairly high without being dominating. None of the firms in the market have a dominating position so the companies´ actions influence each other and predatory pricing is not likely to occur. In the wind energy industry, competitors are fairly the same size which means that there is a greater risk of intense competition as one competitor tries to gain dominance over the others. Furthermore, this industry is characterized by high fixed costs which may result in price wars and very low margin operations.

Consolidation and mergers are happening in the business, which have the consequence that competition is intensifying and market shares will be tougher to win a the future.

Oligopolistic competition means that some degree of uncertainty about how the competitors will react to Vestas´ actions in the market always exists. And Vestas is forced to react to the competitors' action.

It is possible to see from the figure that Vestas has been losing market shares since the merger back in 2004 mainly due to new big players in the market such as the Indian Suzlon and the German Siemens. According to Vestas' website the current market share is about 20 percent, so it has been declining even more since the figures from 2007. However, Vestas is still the

biggest player in the industry while Gamesa and Enercon have in the period had a roughly similar market shares, GE Wind has in the first four years of the figure experienced great variance in their market share. According to Bloomberg[14] Vestas has in 2008 a market share 19.8 percent while GE Wind was up to 18.6 percent, so Vestas was in 2008 close to losing its position as market leader to GE Wind. The wind energy market has the last five years been experiencing an average growth of 27 percent per year. This is an indicator that the market is not mature and that market shares are likely to change accordingly in the future.

According to Vestas, the offshore market is growing rapidly, and the company has kept its focus on that market. The Danish based BTM Consult expects that the growth in the turbine market will on average be 15.7 percent in the next five years[15]. The future expectations for the market look bright and the fierce competition seems to be continuing.

SWOT- analysis

A SWOT-analysis summarizes the key issues from the business environment surrounding Vestas and its strategic capabilities that are most likely to impact its strategic development. The SWOT analysis is composed by the internal factors: strengths and weaknesses and the external factors: opportunities and threats. The aim of the model is to identify the extent to which the present strengths and weaknesses are capable of dealing with the threats or exploiting the opportunities in the business environment.

[14] http://www.bloomberg.com/apps/news?pid=20601072&sid=a_O0mL.9aRu0&refer=energy
[15] http://www.bloomberg.com/apps/news?pid=20601072&sid=a_O0mL.9aRu0&refer=energy

Strengths:	**Weaknesses:**
Global market leader Strong financial position Efficient product development Production capacity in the biggest markets Increasing production capacity Strong and well known brand Economies of scale Vertical integration Technological know-how and leading technology Large customer base and high level after sales service	Declining global market share since 2004 Small domestic market Dependent on government subsidies Constant product development and fierce competition regarding technology Production and distribution costs still not optimal High investments for protection of knowledge and technology Dependent on high educated and skilled employees due to high technology requirements Close to losing its position as market leader
Opportunities:	**Threats**
Vestas operates in a highly growing market Increasing public focus on global warming and sustainable energy Great entry barriers in the industry Project and larger orders High growth on the offshore market Increasing focus on environmental agreements in The European Union and the US Currently the interest rates are low	New entrants are gaining market shares Consolidation and mergers in the business Increasing competition and buyers negotiating power Other sources of sustainable energy Changing political and legislation focus Decline in the price for fossil fuels As a global player Vestas is dependent on foreign currency Changing demand for sustainable energy

Another way of going about with the strategic analysis could have been to use Porter's Diamond model or a value chain analysis. The Diamond Model has been developed with the aim of analyzing why a country accomplished international success within certain industries, in this case why first two, and now one Danish company have been the market leader for many years. The model list six factors in order to simplify reality, these factors are;

coincidence, strategy, production factor, demand, related industries and the government. In the wind mill industry the Danish government goals and subsidies for sustainable energy has crucial for international success.

Value chain is yet another model developed by Michael Porter and has a lower and upper part. The lower part contains the activities organized as a production line, which typically involves; inbound logistics, operations, outbound logistics, marketing and sales and after sales service. This is the line the firm's product through from the purchase of raw materials to after the sale of the commodity/solution.

The upper part of the value chain contains the support activities the firm needs in order to operate. Porter lists four element; procurement, human resource management, technology development and firm infrastructure.

Why these two models have not been used lays in the fact that the problem formulation in this thesis involves measure after merger performance and the shareholder value creation. The aim is not to analyze Vestas in from a resource point of view, but to use the strategic analyze in the financial and accounting analysis.

Strategic conclusion

After a comprehensive analysis of the three levels of internal and external factors that may influence the strategic development of Vestas, this section focuses on concluding and summing up. The wind energy industry is still highly dependent on government subsidies so a change in government policy and legislation could have a major impact on the whole industry and ultimately Vestas. The market for wind energy is global so the world economy as a whole together with the price on fossil fuels and the populations focus on environment play a critical role in the future for the industry. The wind energy has in the last few decades been experiencing tremendous technological advances, and the future for wind energy is dependent on the technological improvements in sustainable energy sources. Wind energy is competing with traditional energy sources such as oil, gas and coal and the one, but also other sustainable types of energy like solar and water.

On the micro economic level, new players have been able to rapidly gain market share, despite the high entry barriers that characterize the industry, namely high capital requirements, economies of scale, technological know-how. The buying power in the industry has increased recently because buyers are now placing larger orders than they did in the past.

Vestas has a high degree of vertical integration which reduces its dependency on suppliers. Additionally, Vestas strives to have more than one supplier for each component to secure supply and create flexibility.

The intensity of competition in the industry seems to be increasing due to the entry of strong financial players, meaning that Vestas is losing market shares even though the market has been growing rapidly the last few years.

Vestas´ financial position is not as strong as large industry players as American General Electric and German Siemens. This present a great challenge for Vestas, one the company still needs to learn to handle in an effective manner.

The five strategic goals outlined in "The Will to Win-strategy" and listed in above in this thesis seem to have been accomplished. Whether the company has grown in a profitable way will be evaluated in the next section, but the increased size has made it possible for Vestas to win orders for the large projects in the business. A high degree of vertical integration has been reached and has mean reduction of dependency of suppliers. The company has after the merger expanded into new and growing markets, so the third goal definitely has been achieved.

The last two goals will not be measured in this thesis, but Vestas has stayed market leader which is a clear sign that cost effective windmills are being produced and that technology is state-of-the-art. Technology has been greatly improved and Vestas estimate that it is close to being able to compete with fossil fuels on market terms. This also implies that value have been created for most stakeholders.

The overall strategic conclusion must be that Vestas definitely have been successful at accomplished strategic goals outlined after the merger.

Calculation of financial key figures

Financial key figures and ratios must be calculated in order to evaluate the merger between Vestas and Micon. Can the estimated merger gain be identified after the merger, and have the strategy launched after the merger been implemented successfully. This financial key figures analysis will be used in the EVA calculation section as a foundation for whether or not the merger has been capable of generating shareholder value.

Before calculating the financial key figures it can be necessary to redefine the financial statement, because to analyze it financially it should be on a cash flow basis and not an accrual basis which is the norm in financial statements. Furthermore, a different structure of the financial statement might be necessary to analytically analyze the profitability of the company. With a definition and interpretation of the financial key figures the analyst is capable of making a comparison of the financial statements for the same company through time, a comparison with other companies and a comparison with the rates of return the investors are expecting. In this thesis only the financial statements for Vestas, pre and post merger, are analyzed and thus, focus is only on a time series analysis.

This analysis can be complicated due to change in financial statement principles, extraordinary entries and disposal of companies. The length of the time series analysis should be based on the available data and the trade-off between a too small data population and too old data. If the analyst only uses new data he risks not having enough knowledge for a comprehensive analysis, but if too much and old knowledge is used risk for outdated data to be used is imminent.

This section will focus on the financial criteria launched in the post merger strategy implemented by management in 2005, a global market share of at least 35 percent, an EBIT-margin at 10 percent and a net working capital at no more than 25 percent of revenues. These economic and financial goals should be measured easily, even though financial statement principles can vary from corporation to corporation. In this thesis the financial statement has been changed compared to the official one to calculate financial profitability and margins. The official financial statements from Vestas are structured very similar to how the analytical statements usually used in the accounting literature are; however, depreciation and amortization will be implemented in the cost of sales prior to EBITDA and in the costs separating EBITDA from EBIT. Furthermore, especially the provision warranty liabilities present a challenge from a analytical point of view. In 2005 Vestas made warranty provision for 106 million Euros to cover future warranty claims on their products. However, because these provisions are allowed according to international accounting standards no adjustment will be made until the next section in this thesis when the EVA calculation will be made.

As stated above, these three key figures are not the only ones calculated and analyzed in this section of the thesis. The reason for this is to be able to analyze on the cost, profitability and efficiency levels and the development of these in Vestas. The merger gains identified and

estimated by management prior to the merger, will also be evaluated and it will be analyzed how they have actually evolved. This analysis will lead up to the next section where the shareholder value creation in the merged company will be calculated and evaluated.

Table 2

Income statement	2008	2007	2006	2005	2004	2003
Revenues	6,035.00	4,861.00	3,854.00	3,583.00	2,561.00	1,652.00
Cost of sold goods	4,767.00	3,974.00	3,324.00	3,428.00	2,318.00	1,432.00
Gross Profit	1,268.00	887.00	530.00	155.00	243.00	220.00
Research and development costs	90.00	66.00	56.00	37.00	0.00	0.00
Selling and distribution expenses	180.00	92.00	67.00	40.00	36.00	27.00
Administrative expenses	195.00	148.00	99.00	72.00	72.00	44.00
Disposal of companies	0.00	0.00	16.00	0.00	0.00	0.00
EBITDA	803.00	581.00	324.00	6.00	135.00	149.00
depriciation and ammortization	135.00	138.00	123.00	123.00	145.00	75.00
EBIT	668.00	443.00	201.00	-117.00	-10.00	74.00
financial income	66.00	19.00	11.00	16.00	10.00	3.00
financial expenses	-20.00	-19.00	-50.00	-58.00	-51.00	-24.00
Profit before taxes	714.00	443.00	162.00	-159.00	-51.00	53.00
corporate taxes	203.00	152.00	50.00	33.00	-12.00	18.00
Profit for the year	511.00	291.00	112.00	-192.00	-39.00	35.00
effective tax rate	0.28	0.34	0.31	-0.21	0.24	0.34
NOPAT	478.08	291.00	138.96	-141.28	-7.65	48.87

All figures are in million Euros.

Some correlations have been made for the financial statements; depreciation and amortization have been expenses at costs entries, so the difference between EBIT and EBITDA is clearer. NOPAT is calculated as EBIT multiplied with the effective tax rate subtracted from EBIT. Besides EBIT-margin, the EBITDA-margin will also be evaluated so that the effect from amortization and depreciation in the accounting figures can be seen.

To see the difference between actual shareholder value creation using the EVA-term and pure accounting returns on capital, return on equity (ROE) and return on total invested capital (ROIC) will also be calculated and analyzed. This will be a hands-on example that accounting figures are not a good measure for the performance of a company.

Table 3

Income statement	2008	2007	2006	2005	2004	2003
Revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of sold goods	78.99%	81.75%	86.25%	95.67%	90.51%	86.68%
Gross Profit	21.01%	18.25%	13.75%	4.33%	9.49%	13.32%
Research and development costs	1.49%	1.36%	1.45%	1.03%	0.00%	0.00%
Selling and distribution expenses	2.98%	1.89%	1.74%	1.12%	1.41%	1.63%
Administrative expenses	3.23%	3.04%	2.57%	2.01%	2.81%	2.66%
Disposal of companies	0.00%	0.00%	0.42%	0.00%	0.00%	0.00%
EBITDA	13.31%	11.95%	8.41%	0.17%	5.27%	9.02%
depriciation and ammortization	2.24%	2.84%	3.19%	3.43%	5.66%	4.54%
EBIT	11.07%	9.11%	5.22%	-3.27%	-0.39%	4.48%
financial income	1.09%	0.39%	0.29%	0.45%	0.39%	0.18%
financial expenses	-0.33%	-0.39%	-1.30%	-1.62%	-1.99%	-1.45%
Profit before taxes	11.83%	9.11%	4.20%	-4.44%	-1.99%	3.21%
corporate taxes	3.36%	3.13%	1.30%	0.92%	-0.47%	1.09%
Profit for the year	8.47%	5.99%	2.91%	-5.36%	-1.52%	2.12%
effective tax rate	0.00%	0.01%	0.01%	-0.01%	0.01%	0.02%
NOPAT	7.92%	5.99%	3.61%	-3.94%	-0.30%	2.96%

All figures are in percentage of revenues.

Table 4

Balance sheet						
Assets	2008	2007	2006	2005	2004	2003
Goodwill	320.00	320.00	320.00	322.00	308.00	11.00
Completed development projects	60.00	48.00	69.00	89.00	55.00	34.00
Software	62.00	34.00	8.00	1.00	1.00	0.00
Development projects in progress	202.00	105.00	81.00	66.00	85.00	14.00
Total intangible assets	**644.00**	**507.00**	**478.00**	**478.00**	**449.00**	**59.00**
Land and buildings	433.00	261.00	230.00	217.00	215.00	135.00
Plant and machinery	159.00	143.00	128.00	139.00	155.00	130.00
Other fixtures and fittings, tools and equipment	167.00	116.00	99.00	95.00	88.00	38.00
Property, plant and equipment in progress	271.00	118.00	33.00	15.00	11.00	18.00
Total property, plant and equipment	**1,030.00**	**638.00**	**490.00**	**466.00**	**469.00**	**321.00**
Investments in associates	1.00	1.00	0.00	3.00	0.00	0.00
Other receivables	25.00	13.00	22.00	14.00	12.00	5.00
Deferred tax	63.00	154.00	162.00	140.00	0.00	0.00
Total other non-current assets	**89.00**	**168.00**	**184.00**	**157.00**	**12.00**	**5.00**
Total non-current assets	**1,763.00**	**1,313.00**	**1,152.00**	**1,101.00**	**930.00**	**385.00**
Inventories	1,612.00	1,107.00	881.00	698.00	436.00	193.00
Trade receivables	938.00	660.00	711.00	621.00	508.00	341.00
Construction contracts in progress	482.00	260.00	329.00	378.00	585.00	338.00
Other receivables	181.00	157.00	123.00	146.00	158.00	81.00
Corporation tax	49.00	35.00	14.00	19.00	88.00	23.00
Investments	121.00	0.00	0.00	0.00	26.00	9.00
Cash at bank and in hand	162.00	764.00	445.00	126.00	193.00	20.00
Total current assets	**3,545.00**	**2,983.00**	**2,503.00**	**1,988.00**	**1,994.00**	**1,005.00**
Total assets	**5,308.00**	**4,296.00**	**3,655.00**	**3,089.00**	**2,924.00**	**1,390.00**
Liabilities						
Share capital	25.00	25.00	25.00	24.00	24.00	14.00
Other reserves	-78.00	-3.00	6.00	0.00	5.00	40.00
Retained earnings	2,008.00	1,494.00	1,231.00	938.00	1,133.00	559.00
Shareholders in Vestas Wind Systems A/S' share of equity	**1,955.00**	**1,516.00**	**1,262.00**	**962.00**	**1,162.00**	**613.00**
Minority interests	0.00	0.00	0.00	0.00	0.00	0.00
Total equity	**1,955.00**	**1,516.00**	**1,262.00**	**962.00**	**1,162.00**	**613.00**
Deferred tax	9.00	3.00	3.00	3.00	11.00	50.00
Provisions	85.00	107.00	99.00	89.00	76.00	113.00
Pension obligations	2.00	2.00	3.00	2.00	2.00	1.00
Financial debts	14.00	125.00	163.00	441.00	472.00	106.00
Total non-current liabilities	**110.00**	**237.00**	**268.00**	**535.00**	**561.00**	**270.00**
Prepayments from customers	106.00	82.00	926.00	489.00	307.00	49.00
Construction contracts in progress	1,383.00	1,010.00	808.00	520.00	404.00	212.00
Trade payables	1,030.00	889.00	0.00	0.00	0.00	0.00
Provisions	178.00	193.00	160.00	146.00	92.00	0.00
Financial debts	109.00	25.00	11.00	51.00	110.00	142.00
Other liabilities	395.00	271.00	188.00	334.00	229.00	97.00
Corporation tax	42.00	73.00	33.00	50.00	17.00	5.00
Total current liabilities	**3,243.00**	**2,543.00**	**2,126.00**	**1,590.00**	**1,159.00**	**505.00**
Total liabilities	**3,353.00**	**2,780.00**	**2,394.00**	**2,125.00**	**1,720.00**	**775.00**
Total equity and liabilities	**5,308.00**	**4,296.00**	**3,656.00**	**3,087.00**	**2,882.00**	**1,388.00**

All figures are in million Euros.

The relative values make it easier to analyze accordingly to the 2005 strategy "The Will to Win", which provides three goals to reach long term strategic targets. Two of the three goals are profitability measures; EBIT-margin and working capital as a percentage of revenues. Market share as the last goal can are shown in the financial statement of Vestas and the report made by BTM Consult. These market shares are identical so no correlation needs to be made.

Table 5

	2008	2007	2006	2005	2004	2003
EBIT	11,0688%	9,1134%	5,2154%	-3,2654%	-0,3905%	4,4794%
Net working capital	7,8376%	13,8037%	14,4266%	16,0480%	33,4244%	29,1768%
Market share	20%	23%	28%	28%	34%	32%

The first goal is to have an EBIT margin at 10-12 percent by 2008. With a margin at 11.07 percent of revenues this goal is actually achieved by Vestas. And the statements show that a positive development in EBIT-margin has occurred since 2005 when EBIT-margin was negative at -3.27. EBIT-margin experienced negative progress in 2004 and 2005, the two first years of the merger. This could imply some difficulties in integrating the two companies in the very beginning.

The reason for the improvement in EBIT-margin after 2005 is that cost of goods sold has declined from almost 97 percent of revenues in 2005 to 79 percent in 2008. The costs between gross profit and EBITDA have all increased significantly, but because they are only comprised of a small percentage of revenues they are too small to ruin the cost improvement. So the cost efficiencies identified as merger gains seem to have been achieved. Cost synergies were estimated to reach full potential of 67 million Euros in 2006. Cost of sales has been falling with more than four percent of revenues from 2004 to 2006, and with four percent being 100 million Euros in 2004 prices, this goal definitely seems to have been accomplished. This could however also be due to other reasons, such as Vestas being able to raise prices. But that does not seem likely, and the cost synergies most be the reason.

The EBIT-margin telling is a measure for the company's operating profit and can be used to analyze the company's operation separated from finance and investment activities. EBIT is the core operations of the company and non-recurring, unusual and discontinuing activities are excluded.

A net working capital[16] at maximum 20 percent of revenues in 2008 was the second target outlined by management in "The will to Win" strategy from 2005. Net working capital is comprised of the difference between current assets and current liabilities. In this thesis, net working capital is calculated as in Brealey, Myers and Allen and is different from net working capital in Vestas' financial statements. Current assets consist of Inventories, Trade receivables, Construction contracts in progress, other receivables, Investments and Cash at bank and in hand. Current liabilities are comprised of Prepayments from customers, Construction contracts in progress, Trade payables, other liabilities, Financial Debt and Corporation tax. When the strategy was implemented in 2004, net working capital consisted of 33.5 percent of revenues, which cannot be considered to be efficient working capital management, especially when taken the percentage from 2008 of 7.84 into consideration. The company has since the merger in 2004 been able to decrease net working capital each year and thereby increasing profitability. The financial statements show that the decline in net working capital is not due to a single factor, but the relation between current assets and liabilities has been changed in order to cut down net working capital. Even though the decline in working capital seems to have improved profitability, there exists a trade-off between cutting down working capital to increase efficiency and the risk of not having enough working capital to pay off creditors in the short run. Worst case scenario with continuing negative net working capital could be bankruptcy. Declining working capital can also mean that revenues are falling and as a result accounts receivables keeps declining.

An increasing working capital can mean that the company is having difficulties with collection of receivables, and needs to improve operational efficiency. In the case at hand the declining working capital are due to an improvement in the management of short term assets and liabilities.

Market share at no less than 35 percent was the third and last objective in the after-merger strategy launched by Vestas. And in 2004 when the companies merged the actual market share was only margins away from 35 percent. That makes it obvious to maintain this market share, and stay market leader. However, the company has not been able to keep this market share even though Vestas was still market leader in 2009. The market share has declined from almost 35 percent to 28 percent in the two following years to land at about 20 percent in 2008 and 2009. So the market share is almost only half of the target and, that must be said to be

[16] Also known as just working capital

very unsatisfying and disappointing. On the other hand, the corporation has actually been able to increase revenues from 2.5 billion Euros in 2004 to 6 billion Euros in 2008. This is showing that the market is experiencing massive growth when the market leader can more than double revenues in four years and still lose close to half of its market share.

Table 6

	2008	2007	2006	2005	2004	2003
ROIC	9,6270%	6,7737%	3,0643%	-6,2156%	-1,3338%	2,5180%
ROE	26,1381%	19,1953%	8,8748%	-19,9584%	-3,3563%	5,7096%
EBITDA-margin	13,3057%	11,9523%	8,4069%	0,1675%	5,2714%	9,0194%
Sales in MW	5.580	4.502	4.239	3.185	2.784	2.667

ROIC is calculated as profit after taxes divided by book value of total assets under management by Vestas, and ROE is profit after taxes divided by the book value of equity. Just as the EBIT-margin, these financial figures have from 2005 to 2008 been going through a very positive development, after a negative development between 2003 and 2005. Equity return is a staggering 26 percent in 2008 which must be considered very high and a sign of great performance from management. However, from an investor point of view, accounting returns on book equity are not very interesting because publicly listed equity is very rarely traded at book value. In 2008 book value of Vestas was close to 2 billion EUROS and the market value in the end of the same year was 7.5 billion Euros. So to calculate ROE with an equity value of 2 billion is not relevant for the investor when the equity is actually worth 7.6 billion.

The accounting ratios can be used to analyze how the financial performance of the company has been developing through time. And if the cost of capital is known it is also possible in some way to see whether shareholder value has been created. If ROE, for example, is 30 percent and market value of equity is double the book value, it should be a sign that the company is creating value for shareholders if the cost of equity is below 15 percent. This is most certainly not a fact and cannot be used to measure shareholder value, but it can give some ideas of profitability of the corporation.

EBITDA and EBIT are sometimes used with an industry multiple to valuation of companies. This is a quick and dirty method to use and is not in line with classic valuation theory. However, the method is used for the valuation of companies in the real world.

From the relationship between ROE and ROIC the accounting capital structure can be derived, and some quick calculations show that assets are financed with around 60 percent debt and 40 percent equity, which are well in line with the actual book values of equity and debt.

Conclusion

The financial figures show a lot about how the company has been performing in the years after the merger. From a purely financial statement point of view, the development has been satisfying and the company looks in good shape. This could very well be due to merger effect and that the integration has been a success. However, the steady decline in market share is a bit worrying. The decline is according to Vestas' financial statements caused by new big Chinese players, furthermore with the increased focus on clean and sustainable energy, one could very easily argue that it is virtually impossible for a Danish company to stay market leader. So Vestas has been successful in reaching two of the three goals of "The Will to Win" strategy. EBIT-margin and net working capital has reached the 2008 targets but market share was far from that.

The figures also show that the market is experiencing massive growth. Even though Vestas' market share has fallen from 34 percent in 2004 to 20 percent in 2008, sales has grown from 2.3 billion Euros to more than 6 billion. And sales in MW have grown from 2,785 to 5,580.

EVA calculations

While the focus in the prior section was the financial statement and an accounting evaluation of the merger and merger effects, this section will focus on the shareholder value that was created or destroyed after the merger between Vestas and Micon. It is important to emphasize that an EVA value of zero or above means that the shareholders have made a good investment. That does of course not mean that shareholders are indifferent with the size of EVA as long as it is positive, but it means that an EVA value of zero is sufficient to create shareholder value, keeping in mind that a good investment is a positive NPV-project and therefore covers cost of capital.

In the previous section some changes were made to the financial statements in order to analyze it in an accounting setting. In this section a few more changes need to be made so shareholder value creation after the merger can be measured. These modifications will be made from the EBIT-entry so that net operating profit after taxes can be found. The main idea

behind these modifications is to convert the accrual-based accounting figures to a cash-based NOPAT.

Besides, the changes that must be made in order to fit the theory behind EVA, warranty provisions will be modified so they are expensed the year the liability occurs, instead of the year they are accounted for in the financial statement. This is done because Vestas has made significant amounts of provisions after the merger that materially changed the financial results.

First will accounting EVA be calculated and evaluated and later the market value added. Both these shareholder value measurements take the cost of capital into account, so first and foremost the WACC is absolutely necessary to estimate. The WACC cannot be calculated with precision because the cost of equity is indirect and the market premium is unknown. Fortunately financial theory offers some guidance tools in order to estimate these unknowns in a reasonable manner. The Capital Asset Pricing Model will be used to estimate cost of equity, while the market risk premium will be estimated with data from how the Danish stock market has changed in the last ten years and estimations from financial theory.

WACC

$$\mathbf{WACC} = r_D(\mathbf{1} - T_C)\frac{\mathbf{D}}{\mathbf{V}} + r_E\,\frac{\mathbf{E}}{\mathbf{V}}$$

All values used for the WACC must be market value instead of book values. Vestas´ debt is not publicly traded so the market value cannot be observed, so as an estimate the book value will be used instead. This is a reasonable way to go about this problem because the difference between market and book value of debt is usually not that great for a company not in financial distress.

Return on debt

r_D is the cost the company must pay to borrow capital. This capital can consist of different types of debt with different maturities and interest rates. To be theoretically correct, these different loans should have their own entry in the equation for WACC, but in this paper an average of interest rates will be found. The reason behind this is to avoid a too elaborated and complicated equation and that the financial statements from Vestas do not specify how the financial expenses have been allocated to different creditors.

The rate on debt is calculated by dividing financial expenses with the interest bearing debt. The interest bearing debt is comprised of construction contracts in progress, bank loans, credit institutions, mortgage debt and short-term share of long-term debt. Financial expenses can be directly observed in the financial statements.

Table 7

Interest bearing debt	2008	2007	2006	2005	2004	2003
Construction contacts in progress	1383	1010	847	0	0	0
Bank loans	109	25	11	51,1	78,7	133,3
Credit institutions	14	125	163	441,1	379,5	50
Mortgage debt					92,9	55,6
Short-term share of long-term debt					31,2	9
Total interest bearing debt	1506	1160	1021	492,2	582,3	247,9
Financial expenses	20	19	50,1	58,1	50,9	24,2
Return on debt	1,33%	1,64%	4,91%	11,80%	8,74%	9,76%

All figures except for "return on debt" are in million Euros.

The figures show very clearly that the costs for Vestas for borrowing money are indeed very fluctuating, and therefore the average costs of 6.36 percent for the six years will be used as return on debt in this analysis. This cost must be seen as a fair estimate for what creditors are demanding for lending money to Vestas.

Return on equity

r_E is the required rate of return for investing in equity of the firm. For Vestas only one sort of equity exists which simplifies things and only one rate of return for equity needs to be estimated, as it cannot be observed directly in the market. As stated in the theoretical chapter the CAPM will be used to estimate the return on equity.

$$\textbf{CAPM} = r_F + beta(r_M - r_F)$$

Risk free rate

For the risk free rate, r_F, the rate on a ten year Danish Government bond will be used. The Danish National Bank offers a comprehensive database of financial information, so the rate on the risk free asset was easily attainable.

Table 8

	2008	2007	2006	2005	2004	2003
Rate on ten year Government bonds	4,2935%	4,2862%	3,8094%	3,3970%	4,3034%	4,3099%

The rate on the risk free asset is lower than the rate Vestas has to pay to borrow money, which is natural because creditors demand higher returns for lending money to Vestas due to the credit risk.

Beta

Estimation of the beta of Vestas is the next step in the Cap-model, and shows the correlation between the market and the specific security. This correlation has been calculated between the Vestas stock and the Danish OMX-index and between Vestas and the OMXC20-index, which consists of the 20 most traded stocks on the Copenhagen Stock Exchange. The calculations are made on a monthly basis for a period of three years from the beginning of 2006 to the end of 2008. These calculations indeed show similar results with beta values of 1.77, which also means that it is very easy to choose the beta value. This shows that the market in general and the 20 most traded stocks move in almost perfect unity. So the Vestas stock is 77 percent more volatile than the Danish Stock Market.

The calculation of the beta values can be seen in the first appendix

Market risk premium

As stated in the theoretical chapter, the market risk premium is the return above the risk free rate investors demand for investing in risky assets. The market risk premium has in the literature usually been estimated at somewhere between 3 and 5 percent. For the estimation of the risk premium the Danish National Bank can provide data that can be used for this challenge. The two indexes used for estimating beta can be used once again to see how the Danish stock market has evolved from 1998 to 2008. OMXC20 has in that period grown, on average, 7.5 percent while the market in general has changed 8.66 percent. With the risk free rate from 2003 to 2008 being about 4 percent a quick and dirty calculation brings the market risk premium at 4 percent, which will be used in this thesis.

The calculations for return on the market can be seen in the second appendix.

Table 9

CAPM	2008	2007	2006	2005	2004	2003
Risk free rate	4,2935%	4,2862%	3,8094%	3,3970%	4,3034%	4,3099%
Beta	1,77	1,77	1,77	1,77	1,77	1,77
Market risk premium	4,0000%	4,0000%	4,0000%	4,0000%	4,0000%	4,0000%
Return on equity	**11,3735%**	**11,3662%**	**10,8894%**	**10,4770%**	**11,3834%**	**11,3899%**

This return on equity in 2008 at 11.37 percent is very different from the accounting ROE in 2008 at 26.14 percent, and the difference really shows important it is to keep accounting and financial figures separated.

Another way of estimating the return on equity could have been from historical prices and the return for shareholders. In the first decade of 2000, the yearly change in Vestas´ stock was on average 16.11 percent measured on a daily basis. The company has not paid out any dividends so the return can be calculated solely from the changes in market prices. 16.11 percent is significantly higher than what the CAPM estimates, but the CAPM estimates on a yearly basis and the historical prices are showing the average return on a ten year period.

Tax rate

Two ways exist to find a tax rate for the calculation of the WACC. The first and easiest one is to find the Danish corporate tax rate for the evaluation period and use that one. Another way to deal with this is to calculate the effective tax rate for Vestas in the six years. In this thesis, the last solution will be used, and the profit before taxes and taxes paid will be utilized to find the tax brackets for the thesis.

Table 10

	2008	2007	2006	2005	2004	2003
Profit before tax	714,00	443,00	162,00	-159,00	-51,00	53,00
Tax	203,00	152,00	50,00	33,00	-12,00	18,00
Tax bracket	28,43%	34,31%	30,86%	-20,75%	23,53%	33,96%

Profit before tax and Tax are in million Euros.

Capital structure

The final step in the WACC calculations is the capital structure, how the firm has financed its assets. The two parts that needs to be calculated is the market value of equity and the market value of the interest bearing debt. Market value of equity is easy and straightforward to find for a publicly listed company, it is the current price the stocks are traded at multiplied by the number of outstanding shares. Because the purpose of the EVA evaluation is to measure the created shareholder value during each year, the values for the capital structure must be the ones at the end of the year.

Table 11

	2008	2007	2006	2005	2004	2003
# of shares year end	185,20	185,20	185,20	174,91	174,91	105,00
Stock price year end	40,70	74,00	32,00	13,90	8,80	13,07
Market value of equity	7.537,81	13.705,10	5.926,53	2.431,27	1.539,22	1.371,96

# of shares and market value of equity are in million Euros

When the equity values have been calculated the value of interest bearing debt must be calculated. The entries in the interest bearing debt have already been outlined in the calculation of rate of return on debt, and by adding the values for debt and equity the enterprise value of the firm, e.g. total capital invested is found. Capital structure is the relationship between the funds that are used for financing the operations of the company. The equity side of the equation is easy to calculate, but the debt is trickier because the entries that are meant to finance the company must be estimated by the analyst. Different kinds of prepayment from customers and deferred tax are not meant to finance the company and should therefore not be included in the capitals structure.

Table 12

	2008	2007	2006	2005	2004	2003
Equity	7.537,81	13.705,10	5.926,53	2.431,27	1.539,22	1.371,96
Debt	1.506,00	1.160,00	1.021,00	492,20	582,30	247,90
Total capital invested	**9.043,81**	**14.865,10**	**6.947,53**	**2.923,47**	**2.121,52**	**1.619,86**

All figures are in million Euros

Now all information needed for the estimation of WACC is available and the cost of capital required for the EVA calculations can be approximated.

Table 13

	2008	2007	2006	2005	2004	2003
Return on debt	6,36%	6,36%	6,36%	6,36%	6,36%	6,36%
Return on equity	11,38%	11,37%	10,89%	10,48%	11,39%	11,39%
Tax bracket	28,43%	34,31%	30,86%	-20,75%	23,53%	33,96%
Value of debt	1.506,00	1.160,00	1.021,00	492,20	582,30	247,90
Value of equity	7.537,81	13.705,10	5.926,53	2.431,27	1.539,22	1.371,96
Total capital invested	9.043,81	14.865,10	6.947,53	2.923,47	2.121,52	1.619,86
Debt share	16,6523%	7,8035%	14,6959%	16,8362%	27,4473%	15,3038%
Equity share	83,3477%	92,1965%	85,3041%	83,1638%	72,5527%	84,6962%
WACC	**10,24%**	**10,81%**	**9,94%**	**10,01%**	**9,60%**	**10,29%**

Value of equity and debt and total capital invested are in million Euros.

The figure shows that the WACC lies between the rates on equity and debt and very close to the rate of return on equity, because the total capital invested in the firm is mainly comprised

of equity. WACC values between 9.60 and 10.82 percent seem definitely reasonable, and Jyske Bank estimated Vestas´ WACC to be 9.9 percent in a recent stock analysis.[17]

These rates for WACC will be used for the calculation of accounting EVA and the financial EVA, the market value added. The total capital invested was necessary to calculated in order to estimate WACC, but can is not the same as the one use to calculate the shareholder value creation.

NOPAT

When calculating shareholder value creation using the EVA-concept, some changes in ordinary accounting entries are necessary to find net operating profit after taxes. The analyst must start with EBIT and then convert accrual to a cash-basis and capitalize investments. This gives the net operating profit, but as the word implies cash operating taxes still need to be deducted.

Vestas is, in the financial statements, not explicitly making it clear whether they use the LIFO or the FIFO model to expense inventory. The reason behind convert inventory expenses in this way is that FIFO is closer to the cash basis than LIFO. In this paper no changes will be made for inventory expenses. Operating leases must be capitalized in order to translate leases from an accrual to a cash-basis. Vestas is already operating with present values with their leases so no adjustments need to be made here.

For the tax assessment some differences exist between paid corporate taxes and cash operating taxes, but because the difference in this case does almost nonexistent, no adjustment for this will be made either. NOPAT will be calculated as EBIT minus corporate taxes for the year.

However, one important adjustment will be made for EBIT before being translated into NOPAT. Warranty provisions are changing the profit of the corporation in a material way and must be adjusted to fit a more cash-oriented basis. Due to the uncertainty about future warranty claims, management can use this entry to smooth income more during the years, and they can adversely change profit one year to greatly improve income the next year/years, also known as “big bath”. This is known as earnings management where manager tries to smooth income during the years, but this makes analysis more difficult and adjustments most be made to account for this. The adjustments will be made so the warranty provisions are accounted for

[17] http://www.jyskebank.dk/_jb/commoninc/bin.asp?id=269366&src=231209vestasestndringer.pdf

in the financial statement in the year they are utilized instead of the year they are expensed. This will be adjusted with the difference between warranty provisions for the year and utilized warranty provisions during the year. Next table shows the calculation made necessary by the adjustment.

Table 14

	2008	2007	2006	2005	2004	2003
Warranty provision at January 1.	233	205	221	147,7	97,6	85
Exchange rate adjustments	-2			5,2	-1,7	-3
Due to acquisitions					86,3	
Warranty provision for the year	240	242	172	232,7	86,5	69
Utilised warranty provisions during the year	262	214	188	164,6	121	54
Reserved warranty provisions during the year	-6					
Adjustments	-20					
Warranty provisions at decem ber 31.	185	233	205	221	147,7	97
Adjustments in EBIT	**-22**	**28**	**-16**	**68,1**	**51,8**	**15**

All figures are in million Euros.

This means that the NOPAT for the years in the evaluation can be calculated, and after that the next step can be calculating the economic value added in the analysis period.

Table 15

	2008	2007	2006	2005	2004	2003
EBIT	668,00	443,00	201,00	-117,00	-10,00	74,00
Adjustments due to provisions	-22	28	-16	68,1	51,8	15
Corporate tax	203,00	152,00	50,00	33,00	-12,00	18,00
NOPAT	**443,00**	**319,00**	**135,00**	**-81,90**	**53,80**	**71,00**

All figures are in million Euros.

Without having actually calculated the shareholder value created, the figures show a positive development in line with the development the financial statements and ratios were showing in the previous section. It is important once again to stress that this does not translate into shareholder value, because that depends on the invested capital and the cost of capital. However, NOPAT is in absolute values definitely improving since the awful financial year of 2005. Now focus must be aimed at the actual shareholder value creation.

Economic Value Added.

All necessary information needed for the calculation of economic value added is now available. However, the market value of capital calculated in the WACC section is not the one

that must be used to calculated economic value added. Because EVA is an accounting measurement tool, book values instead of market values must be used to calculate shareholder value. NOPAT and WACC represent the values that have been calculated for the year to be analyzed, but total capital invested will be the amount that was invested when the year commenced. The reason behind this is that the management's performance during the year must be seen accordingly to the capital invested when the year began.

Table 16

	2008	2007	2006	2005	2004
NOPAT	443,00	319,00	135,00	-81,90	53,80
WACC	10,24%	10,81%	9,94%	10,01%	9,60%
Book value of equity	1.516,00	1.262,00	962,00	1.162,00	613,00
Interest bearing debt	1.160,00	1.021,00	492,20	582,30	247,90
Total capital invested	2.676,00	2.283,00	1.454,20	1.744,30	860,90
EVA	**168,97**	**72,25**	**-9,52**	**-256,49**	**-28,82**

All figures besides WACC are in million Euros.

These figures are having the same development as the financial ratios and NOPAT. After a terrible year in 2005 the management has been able to turn the development around and consistently created better performance in the next three years. With 185 million shares outstanding, Vestas has created EVA just at little bit beneath one EURO a share in 2008. It is important to bear in mind that the EVA figures show how much economic value the company has made because the cost of capital has been taken into account. But if the five EVA values are discounted back to the start of the merger, the equation will show a negative number, which means that if Vestas was to close down as a company in the end 2008, the years after the merger would not have created shareholder value in accounting terms. This is of course not satisfying, but at least two factors exist to ease shareholders. Vestas has experienced a positive trend in accounting values from 2005 to 2008, and shareholders wealth are not directly influenced by accounting numbers but by the market value of their shares. The development in market value will be analyzed in the section below.

Management has not in total been able to create shareholder value, but a positive tendency in the last four years of the analysis has been occurring. And if this trend will continue, it is merely a matter of time before the merged company has created economic value.

Market Value Added

After the accounting evaluation has been carried out, the evolution in market value must be analyzed. Market prices are the direct way for the company to create value for shareholders. Even though the financial statements are good, shareholders are only directly influenced by paid out dividends or the possibility to sell stocks at satisfying market prices. For the investors, future cash flows and the cost of capital are the only parameters when evaluating an investment. Financial statements are used by investors for the evaluation of a firm, but external investors can only be benefited by cash. This means that direct shareholder value is only created if the market has justified the merger with a development in market prices that covers the cost of capital. This is done by calculating the change in market value for all the outstanding securities of the firm during the year, and whether this change is higher or lower than cost of capital. Because the estimated WACC's are in annual returns, the change in market value will also be analyzed using annual figures.

The market value added is the accumulated wealth creation that the company has experienced since capital was invested. For a publicly listed company without financial distress, the MVA will very often be positive, because the stock market usually values assets higher than accounting standards allow. Because of this, the estimation of MVA in the different years of the analysis will most definitely show positive Market Value Added, so that cannot be used as a measure for after merger performance. Due to this the change in MVA after the merger will be calculated and whether market value has been added in present from a 2004 perspective when the merger occurred. The cost of capital can be used once again, this time as the discount factor. But estimating Market Value Added for each year and the changes must by the first step in evaluating the merger from a shareholder point of view.

Table 17

	2008	2007	2006	2005	2004	2003
Market value of equity year end	7.537,81	13.705,10	5.926,53	2.431,27	1.539,22	1.371,96
Market value of interest caring debt year end	1.506,00	1.160,00	1.021,00	492,20	582,30	247,90
Enterprise value year end	9.043,81	14.865,10	6.947,53	2.923,47	2.121,52	1.619,86
Book value of equity year end	1.955,00	1.516,00	1.262,00	962,00	1.162,00	613,00
Book value of interest caring debt year end	1.506,00	1.160,00	1.021,00	492,20	582,30	247,90
Book value of total capital	3.461,00	2.676,00	2.283,00	1.454,20	1.744,30	860,90
Market Value Added	**5.582,81**	**12.189,10**	**4.664,53**	**1.469,27**	**377,22**	**758,96**
Change in MVA	-54,20%	161,31%	217,47%	289,50%	-50,30%	

All figures besides Change in MVA are in million Euros.

The changes in MVA show a lot of variation but definitely look like value has been created. Market and book values of debt are equal, so all value enhancement steams from increases in equity. Because the development is so massive and is changing in both directions, it is not easy to conclude anything so far. In 2004 and 2008 Vestas is losing more than half of market value added. The reasons for this could be that the market in the beginning was very negative regarding the merger and the financial crisis in the later part of 2008. An interesting fact is that in 2008 when Vestas is having the company's best financial statement ever, the stock loses more than half of its market value. This really emphasize that market and book values most be strictly separated.

A present value of Market Value Added must be estimated in order to directly evaluate how incumbent shareholders have been affected by the merger. For this analysis, the change in MVA for each year will be discounted with the WACC for the corresponding year to have the present value the previous year. This value will be added with the MVA created/ destroyed in this year, and all these values will be discounted back to 2003 right before the merger.

Table 18

	2008	2007	2006	2005	2004	2003
Change in MVA	-6.606,30	7.524,57	3.195,27	1.092,05	-381,74	
WACC	10,7819%	11,4191%	11,2237%	11,8698%	10,0554%	
Present value year end	-6.606,30	-5.963,33	1.401,23	4.132,66	4670,347	
		1.561,24	4.596,50	5.224,71	**4.288,61**	**3.896,77**

Change in MVA and Present value year end are in million Euros.

Keeping in mind the assumptions and estimations that have been made during the thesis, the calculations are showing that the present value of market value added for the securities of the firm is almost 4 billion Euros and therefore, that the merger was a positive NPV-investment in the period from the merger commenced to the end of 2008.

Has the merger created value?

It is of course very important to keep in mind two factors[18] that make the conclusions in the above section relative. First of all, the company how be analyzed after the merger, but it is not possible to know how Vestas and NEG Micon would have performed as two separate business units. Secondly, the analysis is carried out on a five year time frame, but the company is not a project with a limited timeframe but should in theory be evaluated as a

[18] Besides the assumptions made

going concern. To do this, future WACC and Free Cash Flows should be estimated for infinite. This is not the purpose of this thesis, so what can be concluded is that the merger as of 2008 has created economic value.

In the perspectives section of the thesis three hypothetical scenarios will be discussed to give some insights on how Vestas might have performed without the merger with Micon. The three scenarios will be with Vestas having increasing, constant and decreasing market share. In hindsight it is known that Vestas have been losing market shares since the merger, so at first glance it may seem illogical to analyze scenarios with constant and increasing market share, but depending on what would have happened to Micon, Vestas might have gained some market shares on Micon's expense. Price power will as a second parameter also will be taken into account in the perspectives.

Now that the limitations of the analysis have been outlined, it is time to sum up and conclude on the carried out EVA calculations. The Economic Value Added based on accounting values has in total destroyed shareholder value but are the last three years of the analysis showing a steady incline in Economic Value Added. If this growth is continuing it will only be a matter of time before shareholder value has been created. If on the other hand the development is stopped or begin to go in the other directions, it will be virtually impossible for the management to create shareholder value in EVA terms. So in many ways the next few years seem to be of great importance for the future of Vestas. But it is important to keep in mind that accounting EVA and financial statements are used by the market to determine stocks prices, but do not directly influenced the value of the shareholders investment. If the market is functioning effectively the market value of the firm's securities should be dependent on financial statement and the riskiness of the market the company operates in.

As regarding the market value added this thesis is using value added as a way of measuring wealth creation in the years of the analysis while having the cost of capital into consideration. These calculations do not seem to be correlated with the accounting EVA, so that must be considerate an indication that shareholders are not directly influenced by the financial statements. This does seem to be the case in the short run, but in the long run results would probably look different.

Market value has increasing by a lot more than the cost of capital in the three middle years of the analysis. And the present value of market value added is almost 4 billion EUROS from a 2004 point of view. This increase in solely coming from increases in stocks prices because the

market value of debt is not traded and book values have been used instead. Market values are fluctuating substantially, which in financial theory is considerate a negative attribute. But a risk loving investor obviously likes it

So to sum up, the two different shareholder value measurements are showing diverging results. But for the investor the market value is definitely the most important measure when evaluating the investment. And this thesis mainly being a financial paper, the conclusion is that the merger, taken the limitations of the analysis into account, has been a success from the view point of the incumbent shareholders in terms of creating economic value and thereby shareholder value.

Chapter 5

Perspectives

Due to the fact that it is only known how the merged company has performed after the merger, and not how the two companies would have performed without the merger, this section will present three hypothetical scenarios for what could have happened for Vestas without the merger with Micon. These three scenarios are estimating the performance of Vestas for the same timeframe as the main analysis in this thesis, and are comprised of variations in the two parameters; market share and price power. The difference in the three scenarios is based on market share, one where Vestas have the same market share as prior to the merger, on where Micon has gone bankrupt and Vestas as a consequence is experiencing increasing market share, and finally a scenario where Vestas are losing market shares as the merged actually did. The changes in price power are following the same trends as the market share, meaning that increasing market share are followed by increase in price power. Market share will affect revenues as a percentage of the global market for wind mills and price power will be implemented in the cost of sold goods as percentage of revenues.

It could have been interesting to employ technology as a third parameter, but the implementation of this has proved to be too difficult and therefore only two parameters will be used in the perspectives part of the thesis.

In the scenarios market share will affect the revenues that will be estimated as a percentage of the actual global market for wind mills. Price power will be implemented as the percentage of revenues cost of sold goods represents. The financial statement for Vestas from 2003 will be the starting point for this section. Cost of goods sold, EBITDA and EBIT will be as the same percentage of revenues as in 2003. Vestas ends in the scenarios in a 28 percent tax bracket to simplify calculations.

With the different scenarios now outlined it is possible to draw the scenarios and the different assumptions will be mentioned in along with the scenario. The present values of EVA in the three scenarios will not be estimate, because the unknown capital structure and invested capital makes it impossible to estimate WACC with just some precision. This means that the perspectives will be completely based on hypothetical assumptions and the results will be very difficult to use for evaluating the merger.

Table 19

Constant	2008	2007	2006	2005	2004	2003
Revenues	9,656.00	6,763.13	4,404.57	4,094.86	2,410.35	1,652.00
Cost of sold goods	8,370.09	5,862.47	3,818.01	3,549.54	2,089.36	1,432.00
EBITDA	870.91	609.99	397.26	369.33	217.40	149.00
EBIT	432.53	302.95	197.30	183.43	107.97	74.00
NOPAT	311.42	218.12	142.06	132.07	77.74	48.87

All figures are in million Euros.

The company as a standalone seems to doing worse than the merged company even though no negative NOPAT occurs. This must be interpreted positive for the merger.

Table 20

Increasing	2008	2007	2006	2005	2004	2003
Revenues	12,673.50	8,453.91	5,230.43	4,606.71	2,561.00	1,652.00
Cost of sold goods	9,718.40	6,651.78	4,220.06	3,808.96	2,168.73	1,432.00
EBITDA	2,001.41	1,220.54	684.30	540.30	265.68	149.00
EBIT	993.99	606.17	339.85	268.34	131.95	74.00
NOPAT	715.67	436.44	244.69	193.20	95.00	48.87

All figures are in million Euros.

In the scenario with increasing market share and price power, the market share are growing two percent a year and price power makes cost of goods sold to decrease by two percent of revenues per year. This makes market share ending at 42 percent and cost of goods sold at 76.68 percent of revenues. These NOPAT values are definitely better than the actually values and it does seem reasonable to assume that invested capital will be somewhat lower for Vestas without the merger activity.

Table 21

Decreasing	2008	2007	2006	2005	2004	2003
Revenues	6,638.50	5,072.35	3,578.71	3,583.00	2,259.71	1,652.00
Cost of sold goods	6,086.36	4,599.75	3,209.49	3,177.51	1,981.37	1,432.00
EBITDA	373.95	320.08	250.06	274.63	188.51	149.00
EBIT	185.72	158.97	124.19	136.39	93.62	74.00
NOPAT	133.72	114.46	89.42	98.20	67.41	48.87

All figures are in million Euros.

The third and final scenario will be the one with decreasing market share and price power. Market share will decline 2 percent each year and end at 22 percent, and cost of goods sold will increase each year with one percent of revenues and ends at 91.68 percent.

Vestas definitely seems to be doing a lot worse in this scenario than the merged company has actually done. Of course no negative NOPAT occurs due to the way the scenarios have been build, but NOPAT never reaches more than one third of the actually NOPAT value in 2008, and therefore the scenario is of course not better than what actually happened. It goes without saying that the decreasing scenario will perform worse than the constant and increasing scenarios.

With two out of three scenarios performing worse than the merger, the immediate conclusion must be that the merger has been a success. This is fortunately the same conclusion as in the market value analysis, but not the accounting EVA, so actually two out of three evaluations estimates economic gains from the merger.

Conclusion

After a comprehensive strategic analysis of Vestas and the micro and macro surroundings, an analysis of financial key figures and ratio and an evaluation of shareholder value creation in accounting and financial terms, time have come to answer the problem formulation and draw some conclusions.

Before the merger, the management identified some economic gains that should be reasonably to realize after a merger. Together with the launch of a new strategy and three financial goals, the merger was justified, and was carried out in the beginning of 2004. This strategy has been analyzed and evaluated in this thesis.

From a strategic point of view, the PEST analysis showed that the market is still dependent on government support and that the sustainable energy market is expecting to continue the recent explosive growth due to national and international policies. The market for wind energy is global and only a marginal fraction of Vestas´ revenues come from Denmark.

Increasing public awareness has benefited the market along with technological advances, but has not yet reached a point where wind energy can compete with fossil fuels on market terms. But wind energy has increased efficiency 100 times in the last 25 years and hopefully the

development can continue. On the other hand, other sustainable energy sources such as water and solar power are two future factors that wind energy needs to take into consideration.

On the micro level the competition intensity is very high due especially to the entrance of big industrial players from the US, Germany, Indian and China. Herein lays the main reason why Vestas has lost market shares the last few years and has not met the goal from "The Will to Win" strategy.

The market is characterized by high entry barriers and the buying power has increased because larger orders than earlier are being placed. For this reason Vestas has tried to avoid dependency on suppliers by vertical integration and having more than one supplier for each component. The vertical integration are also increasing the entry barriers and makes Vestas more committed in the market.

Overall the strategic goals have been reached so from a strategic point of view the merger has been a success and the estimated merger gains prior to the merger have been realized.

In 2005 a strategy containing three financial goals to be reach in 2008 was launched by the post-merger company, but the firm has only reach three out of two goals. Calculation of financial key numbers are showing that the EBIT-margin and working capital as percentage of revenues have both reached strategic objectives, but the market share has been declining from the 35 percent set out in the strategy. Rest of the financial key numbers and ratios has been developing nicely since the merger, so the only set back is that market share has not reached the desired level.

In the analyzing part of the thesis two measurements has been used to calculate the shareholder value creation in the analysis period. Accounting EVA was terrible in 2005, but has since improved and has in 2007 and 2008 reached positive values. Only the last two years in the analysis has the company created shareholder value, and that cannot be satisfying for investors. When valuing the period as an ordinary investment project the accounting numbers show a corporations with a negative net present value.

The calculation of financial EVA referred to as Market Value Added, have in every year of the analysis been showing positive values. But because the MVA are measuring accumulated market value creation compared to book value, the change in MVA for each year with regard to the cost of capital have been used to calculation the MVA in each year and whether it has been sufficient to cover the cost of capital.

The result of this analysis was positive because present value of the change in MVA is positive making the after merger company into a good investment for the incumbent Vestas shareholders.

So the conclusion is showing that Vestas´ strategy has overall been a success, even though accounting EVA is not yet showing it, but shareholders value has been created due to the increase in the market value of stock prices. And for this thesis the market value of the company is more important in the short run than accounting EVA so the conclusion have to be that the merger as of 2008 has been a success.

The perspectives are implying that the merger has been a success as well. So the shareholders of Vestas before the merger and the shareholders of Micon have benefited from the merger. The shareholders of Micon has not been given much attention in this thesis, due to the fact that they were given a premium when they exchange their Micon shares to Vestas shares, and when the merger benefited shareholders after merger, the merger certainly also benefited the shareholders of Micon. And it is obvious that the merger benefited the shareholders of Micon even more than it benefited the shareholders of Vestas. This is of course in purely financial terms in the five years analysis period. How it has affected them strategically or they influence on how to run the company is completely neglected in the analysis. And it must be mentioned that Micon was in financial trouble, so the shareholders are traded stock in a distressed company with more valuable stocks in the market leader. Definitely a good deal.

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Appendixes

Beta values

Calculation of the correlation between Vestas and OMXC20 and Vestas and OMXC expressed as beta values

		Vestas	return	OMXC20	return	OMXC	return
1	Jan-06	121.00		389.06		368.37	
2	Feb-06	131.25	8.47%	390.64	0.41%	375.01	1.80%
3	Mar-06	153.50	16.95%	395.12	1.15%	382.90	2.10%
4	Apr-06	160.50	4.56%	396.71	0.40%	375.79	-1.86%
5	May-06	150.00	-6.54%	372.89	-6.00%	354.47	-5.67%
6	Jun-06	159.50	6.33%	371.01	-0.50%	349.61	-1.37%
7	Jul-06	157.50	-1.25%	369.29	-0.46%	351.38	0.51%
8	Aug-06	163.00	3.49%	390.57	5.76%	367.98	4.72%
9	Sep-06	157.00	-3.68%	403.39	3.28%	380.73	3.46%
10	Oct-06	164.50	4.78%	418.92	3.85%	396.08	4.03%
11	Nov-06	217.25	32.07%	424.33	1.29%	405.53	2.39%
12	Dec-06	238.75	9.90%	441.48	4.04%	423.43	4.41%
13	Jan-07	252.50	5.76%	462.84	4.84%	441.72	4.32%
14	Feb-07	263.00	4.16%	455.44	-1.60%	434.46	-1.64%
15	Mar-07	312.50	18.82%	466.59	2.45%	443.92	2.18%
16	Apr-07	359.00	14.88%	485.46	4.04%	464.59	4.66%
17	May-07	389.00	8.36%	500.57	3.11%	485.32	4.46%
18	Jun-07	362.00	-6.94%	483.69	-3.37%	476.08	-1.90%
19	Jul-07	368.00	1.66%	499.66	3.30%	490.97	3.13%
20	Aug-07	370.00	0.54%	496.30	-0.67%	485.86	-1.04%
21	Sep-07	413.00	11.62%	499.93	0.73%	485.83	-0.01%
22	Oct-07	459.00	11.14%	507.92	1.60%	494.31	1.75%
23	Nov-07	484.00	5.45%	471.76	-7.12%	454.83	-7.99%
24	Dec-07	552.00	14.05%	464.14	-1.62%	446.69	-1.79%
25	Jan-08	477.00	-13.59%	407.83	-12.13%	392.11	-12.22%
26	Feb-08	505.00	5.87%	431.24	5.74%	410.93	4.80%
27	Mar-08	516.00	2.18%	428.10	-0.73%	405.55	-1.31%
28	Apr-08	524.00	1.55%	427.00	-0.26%	407.70	0.53%
29	May-08	660.00	25.95%	460.29	7.80%	428.41	5.08%
30	Jun-08	620.00	-6.06%	424.30	-7.82%	394.72	-7.86%
31	Jul-08	632.00	1.94%	417.43	-1.62%	385.06	-2.45%
		Vestas	**return**	**OMXC20**	**return**	**OMXC**	**return**
32	Aug-08	692.00	9.49%	424.11	1.60%	388.40	0.87%
33	Sep-08	451.00	-34.83%	351.15	-17.20%	324.48	-16.46%

34	Oct-08	238.50	-47.12%	285.19	-18.78%	264.51	-18.48%
35	Nov-08	262.00	9.85%	263.05	-7.76%	241.57	-8.67%
36	Dec-08	303.50	15.84%	247.72	-5.83%	227.98	-5.63%

Monthly return	3.88%	-1.09%	-1.18%
Yearly return	46.51%	-13.06%	-14.11%

Vestas beta with OMXC20	1.77363
Vestas beta with OMXC	1.773773

Market return

Calculation of the annual average return on the Danish OMXC20 and OMXC

	OMXC20	**Change**	**OMXC**	**Change**
1998	220.90		187.31	
1999	215.93	-2.25%	181.62	-3.04%
2000	302.28	39.99%	245.80	35.33%
2001	294.60	-2.54%	232.91	-5.24%
2002	235.36	-20.11%	191.65	-17.72%
2003	219.17	-6.88%	189.65	-1.04%
2004	269.63	23.02%	242.61	27.93%
2005	341.28	26.57%	315.72	30.14%
2006	395.79	15.97%	375.05	18.79%
2007	481.22	21.58%	465.65	24.16%
2008	383.89	-20.22%	359.95	-22.70%
Average		7.51%		8.66%